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THOMAS COKE WATKINS, EDITOR

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PORTRAIT PHOTOGRAPHY IN 1913

EVERY indication points to unusual prosperity in 1913, a prosperity in which the photographer should share very largely. The unusually bountiful crops of the past year have made certain a very much increased spending capacity for 1913. With an increased spending capacity, the so-called luxuries will benefit largely and there will be more autos, more pianos, more diamonds, and more photographs.

Outside of the millionaire class, the bulk of the spending public is largely guided in its spending by that vague but general feeling that the times are either "good times" or "hard times." We are undoubtedly approaching the highest tide of prosperity the country has enjoyed in many years and opportunity is knocking at many doors.

Thanks to the splendid generosity and foresight of the Eastman Kodak Company, in making their nation-wide advertising campaign on behalf of portrait photography, there are more people in a receptive mood as regards having their portrait taken than ever before.

To secure a share of the general prosperity the photographer will, of course, have to bestir himself. Opportunity may knock at your door, but she never walks right in. We have to be on the alert and ready to welcome her when she calls. With the holiday rush all out of the way the photographer should be laying his plans to attract and take care of new customers. This is a good time to discard and replace old and worn-out furnishings, hangings, or rugs. Go over the working apparatus and consider well the purchase of new and improved working tools.

A busy season will often develop faulty arrangements of work rooms. Now is the time to make the changes. Anything that makes for increased efficiency, more and better work in less time, should be considered and right now is the best time to do it.

The year 1913 will be very much what you make it. All the possibilities are there to make it a bumper year and the photographer who sets himself to work to grasp the opportunities will not be disappointed.

THE FALK CONVENTION

THE Eighth Annual Meeting of the Professional Photographers' Society of New York will go down in history as the "Falk Convention," and we will be very much surprised if it does not turn out to be the best Convention held by the P. P. S. of N. Y. There are some unusual circumstances to make it so.

B. J. Falk, more affectionately known as Ben Falk, has a remarkable personality; quiet and unassuming in a marked degree, his name is a household word in the profession and he counts his friends literally by the thousand. It is given to few men to command the respect and affection in which Ben Falk is held among the profession.

It is this great liking for the man that has inspired his associates of the Metropolitan Section to name the eighth annual convention the Falk Convention and to work together to make the Convention worthy the name. President of the Society this year, B. J. Falk will have the pleasure of presiding over a Convention largely planned and carried through by his enthusiastic friends.

Here are some of the plans:

The Convention will be held in the assembly room of the Metropolitan Life Building, February 12, 13, and 14. This is one of the best and most centrally located halls in the city for convention purposes and has been used by the Society several years with great satisfaction.

One of the big features of the Falk Convention will be the picture exhibit. It will be unusual and the greatest display of American portrait photography that has been seen in many years. There will be representative work by every prominent photographer in the country; Garo, Goldensky, Hollinger, Hoyt, Stein, Strauss, MacDonald, Marceau, Bradley, Beach, Core, Clark, Lifshey, Lewis, Parkinson, Phillips—they'll all be there and with their best showing of portraits. It will remind old conventioners of the Celeron Conventions when the picture exhibit really meant something. There has not been a really first-class exhibition of straight professional portraiture in some years. This promises to be of unusual merit.

The second big feature of the Convention will be a unique display of the possibilities of the negative as expressed in different mediums. Seven negatives by the most prominent workers in their particular style have been sent in rotation to the various printing paper manufacturers, who have made prints from each negative on their various brands of paper. This is a comparative exhibit that has not been made before and will be of unusual interest to every photographer. We are assured that this special collection of prints will under no circumstances be offered in exhibition at any other place than the Falk Convention. This is a point to make a note of; this comparative print exhibition can only be seen at the Falk Convention at New York, February 12, 13, and 14.

The third big feature of the Falk Convention will be the beefsteak dinner, to be given at Healy's—well-known to the connoisseur—on the night of the 13th. The social end of the New York conventions culminating in the annual banquet has from the first been a very strong feature, and a beefsteak dinner offers even more opportunity for fraternal festivity than the more formal dinner. As an innovation, members will be permitted to

bring friends with them to the dinner and they can do so without fear of disappointment. There is no question about the success of this part of the program. The ladies will be there and wear aprons just like the men. We know a photographer in Toledo, O., who hasn't missed one of the New York convention banquets and says he would willingly come twice as far for such a good time.

If you can only get to the Convention for one day, be sure and make it Thursday, the 13th; that will be the big day of the Convention culminating in the beefsteak dinner.

Several other features are being arranged, including a talk on "Copying Daguerreotypes," by Mr. Hollinger, who possibly knows more about this subject than any man living. There will also be demonstrated a very simple, practical, and economical method of enlarging. The dormant possibilities of the enlargement have not been touched as yet and a simple means of making enlargements would materially increase profits.

Make up your mind that the Falk Convention is going to be unusually interesting and the biggest event of the year—excepting perhaps the National. Make up your mind to come to New York and you will enjoy every minute of the "Falk Convention."

AFTER CHRISTMAS

THERE is a tradition in the photographic profession that after the holiday rush is over the photographer will have a rest from his labors and that the season of disagreeable weather, which has become known as "the dull season," has been and is to be a period of doldrums, in which there is no chance to push business, or to do much else than clean up after the Christmas rush and put coal into the stove. Such a tradition as this is demoralizing in the extreme and if dull business is to be accepted without a murmur the inevitable will surely happen, namely—it will be very, very dull, indeed.

But why should it be accepted? The weather will be uncertain, of course. But the modern speed of plates and lenses renders the photographer independent of weather conditions, unless it is unusually dark. But then we have the flash powder and the new methods of igniting it that make it a thoroughly practicable substitute for daylight and quite as controllable. We believe that so far as the weather may influence the actual photographic work there is no argument at all. But as the weather is the mainstay among the excuses for lack of business, it must be considered from the point of its influence on the customer, rather than on the photographers. The public is under the impression that it is not possible to make good pictures in bad weather, and here is the main stumbling block and the superstition that requires the most careful consideration by the photographer. If they are short of money and are depressed by hard times, we admit that they are hard to persuade. But if they have money and time, then it becomes but a matter of a little extra work to show them that they can be served as well after Christmas as before it, and, if it can be proved to them that their work can be more carefully handled when the rush reason is past than during it,

they are susceptible to such an argument, and, if they have the price, they can be persuaded.

It must not be accepted from this statement that we are under the impression that customers can easily be brought to the studio. We have not the temerity to make any such statement as that, for we know enough of the situation to be convinced that the public can not be easily made to do a thing that they have not been accustomed to do. The temper of the public must be accepted as it is, not as it might be or should be, and any business man who does not accept it in that manner is due for a good hard bump. All big and successful business men take into consideration all of the whims and peculiarities of the public, even if they are foolish. We recently noticed that in the modern office buildings that have more than twelve stories that the thirteenth floor is eliminated and from the twelfth we go to the fourteenth. The managers of the buildings have an actual condition to face in the prejudices of the public to renting the rooms on the thirteenth floor and these rooms were considered so undesirable that they had to be rented at a lower rate or remain unoccupied. To some this will seem the height of absurdity, but from the owner's viewpoint there is nothing absurd about it. He has to get the rent from the offices to pay his expenses and he finds that he must cater to the superstitions of the public in order to get it, so it is merely a straight business proportion with him.

And so it is with the post-holiday business. It must be cajoled, coaxed, tempted or bulldozed into an interest in photographs, and the consideration of how this can be done is of first importance to the photographer who has a righteous objection to being forced into idleness from January first to May first. Among the many plans that have been adopted to overcome these tendencies the "Home Portraiture" idea has been developed to a point where it is practical and possible. We do not say easy. It is necessary to learn it just as it is necessary to learn any new process, for the conditions are not only different from the studio, but they differ with every job. How to control the light under such difficulties is a study all by itself, and some of the most advanced workers have resorted to numbers of schemes to accomplish it successfully, and many of these have been published and should be read in detail.

The flash machine equipped with the smokeless bag is the device that has been found most practical in rendering the indoor photographer independent of unfavorable light conditions, and the improvements in flash light apparatus in the past two years have been epoch making. For family groups and plain interiors the cheapest types of lamps, from $1.00 each to $6.00, are all that could be desired. But for the difficult classes of work, such as home portraiture, conventions, banquets and theatrical work, the larger machines, costing from $15 to $45 are required.

Is it worth while to buy a machine? Consider the results. If the past years show that the business, during January, February and March, has averaged $100 a month, and with the aid of a machine and a little hustling out in the field it can be raised to $250 or $200 or even $150, it has more than paid for itself in actual profits, and, in addition, has brought the photographer into direct contact with a lot of people who, in all probability, have heretofore given him scant consideration and less business. As an advertisement it has a value. As a money maker it has

wonderful possibilities. As a means of bridging over the dull months it is indispensable.

Commercial work. This branch of photographic work is being preached quite generally of late and its field is being broadened every day. We can not go into details, for it would require more space than we can devote to it at this time, but the magazines are full of it and it is worth looking into. It is a field where weather cuts no figure. It is a line of business that comes at different seasons from portraiture. If does not yield the same margin of profit per unit, but the aggregate amount is larger and, all things considered, the profit is quite as satisfactory as in portraiture, if one is willing to work hard for a living.

To let down after Christmas is to neglect opportunities. To consider these new fields and to put time and work into them will pull the sting of bad weather and convert it into a season that is not to be dreaded but welcomed. Keep it up after Christmas just as hard as you did before—no!—harder.—*Trade News.*

NOTES ON PHOTOGRAPHIC REAGENTS

BY MATTHEW WILSON

SPEAKING of what, for want of a more appropriate name, may be termed the chemical dynamics of photography, and including under that special designation the bulk of the work daily performed in the laboratory, the dark-room, and the printing-room, the statement has been made that the two chief essentials to the attainment of technical success are, first, the use of the right reagents, and, secondly, the employment of these in the proper proportions.

On the latter clause of this dictum, involving, as it does, matters of a purely photographic kind, which must, moreover, necessarily vary according to each operator's particular requirements for the time being, there is no need on the present occasion to enlarge. The clause, however, respecting the use of the right reagents, is one of the utmost consequence in practice, and is therefore deserving of a careful and detailed exposition.

It should here be explained, by way of preface, that the remarks, necessarily brief, which it is presently proposed to offer on the subject of photographic chemicals will, according to the special nature of the facts to be described, come under the heading of one or other of three distinct categories.

There is, first, to demand consideration, what is, no doubt, the point of vital importance, namely, the nature of the salts and reagents themselves, including under this particular head all that is necessary to be said—from the photographer's standpoint—concerning their chemical constitution, their peculiar properties, and the manner of their behavior under the action of physical agencies.

In the second place, careful inquiry must be made, whenever possible, respecting the impurities which are most likely to be met with in the chemical preparations that are in common use in the processes of photography, and also as to the effects, hurtful or otherwise, that must be attributed to the presence of these as

disturbing factors in our technical formulæ.

Thirdly, some practical hints would seem necessary as to the manner as well as to the physical state in which the respective reagents should be preserved for use, and as to the best methods of protecting them from the harmful action of exterior influences, thereby preventing the deterioration which in certain cases is found to ensue unless proper precautions of this kind are observed.

Before, however, proceeding to discuss the properties, etc., of photographic chemicals on the lines here indicated, something ought to be said respecting the solvents that are in everyday use in our technical manipulations. Of these, if we elect to confine our attention solely to the actual requirements of the modern photographer, water and alcohol, on account of their almost exclusive employment for solvent purposes in our present-day processes, are the only two of which it is needful to take particular notice.

The use of impure water for the preparation of photographic baths and solutions, and indeed, under certain circumstances, merely for the necessary washing of prints and negatives, is unquestionably on many occasions the unsuspected cause of the defects that are so frequently noticeable and so often inexplicable in the finished work even of the professional operator. Whenever, then, there is reason to suspect that the water supply in the photographic laboratory is contaminated with any considerable percentage of soluble chlorides, with nitrogenous organic matter, or with lime or other earthy compounds held is solution by dissolved carbonic acid gas, its use, save for washing purposes, should be at once discontinued, and distilled water, or, failing this, rain water, employed as a substitute. For the preparation of the nitrate of silver bath, that indispensible adjunct in emulsifying and sensitizing operations, distilled water is, indeed, always an absolute necessity, owing, of course, to the circumstance that ordinary water, and, for that matter, rain water too, almost invariably contain dissolved chlorides which act as partial precipitants of the silver.

Moreover, in the washing of silver prints before toning, the operation being carried out in stages in the usual manner, it is highly desirable that they should be finally immersed and allowed to soak in pure water prior to their transference to the toning bath. Unless this be done, there is always a certain risk that, during the process of soaking, which, especially when a large number of prints have to be toned, is apt to be somewhat prolonged, the image may be injured by the formation of a deposit of silver chloride. so slight as to be at first almost imperceptible, but afterwards likely to prove a source of trouble, causing stains and double tones when the prints are treated in the gold bath.

The photographer would do well also to bear in mind that hard waters which contain more than a mere trace of compounds of lime should never be employed for the purpose of eliminating ferrous oxalate developing solutions without a preliminary thorough soaking of the prints or negatives in two or more changes of distilled or rain water. If this precaution be neglected, there is danger of the image being partially obscured by the formation of a thin layer of the white insoluble compound, calcium oxalate.

An aqueous solution of neutral postassium oxalate of medium concentration forms a convenient test for lime salts in suspected samples of water. The presence of lime will be

indicated by a milky opacity ensuing when a suitable volume of the test solution is agitated with three or four times its bulk of the sample, and by the white sediment which gradually subsides when the contents of the vessel are left for a time undisturbed. As is well known, what is technically termed the "temporary hardness" of a water may be got rid of by the simple if tedious expedient of boiling and filtering, as a result of which treatment the carbonic acid gas present will be expelled, and any carbonate of lime that is held in solution will be reprecipitated.

Except for certain special purposes, such, for instance, as the rapid drying of negatives after washing, it will seldom be found necessary to employ pure or absolute alcohol in the manipulations of modern dry-plate photography. For the preparation of stock solutions, "proof spirit," which is practically a mixture of equal parts by weight of alcohol and water, will usually be found satisfactorily to answer the requirements of the photographer. If, however, a stronger solvent be required, the wood alcohol of commerce, which contains 13 per cent. of wood-spirit to about 87 per cent. of pure alcohol, may be used.

Passing now from the consideration of solvents to that of reagents properly so called, and turning our attention in the first place to the compounds of the precious metals, three of those, viz., chloride of gold, postassium chloroplatinite, and nitrate of silver, on account of the important and indispensable part which they play in the operations of photography, demand our particular notice.

Chloride of gold, as the reader will be aware, may be purchased at most dealers in photographic reagents in a condition of guaranteed purity, in which state it contains 64.8 per cent. of the metal. Being, however, a somewhat costly commodity, substitutes of low price are, thanks to the accommodating enterprise of the manufacturing chemist, always readily obtainable, and although of decidedly inferior quality in point of purity to the other, are, unfortunately in considerable demand for photographic use. Samples of this kind almost invariably contain as an adulterant a large percentage of sodium chloride. The bulk of this may, if so desired, be easily removed by digesting the contents of the glass tube in cold absolute alcohol. The sodium salt, being practically insoluble in this reagent, may then be filtered off, and the gold solution, after very cautious evaporation to dryness to expel the alcohol, redissolved in distilled water.

Potassium chloroplatinite, the red double salt commonly employed for sensitizing purposes in platinotype printing, as supplied commercially is comparatively free from serious adulteration. In certain samples, indeed, a slight excess in the normal proportion of potassium chloride is occasionally noticeable, a feature which, however, may be disregarded by the platinotype worker, seeing that it does not appear to exercise an injurious influence on the sensitizing action of the salt.

Nitrate of silver being a compound which occupies an altogether unique position both in the history and in the practice of photography, its properties, unlike those of any other reagent employed in that art, have been studied with particular and painstaking care and minuteness.

Whenever possible, the salt should be purchased in the crystalline state, as the fused variety which is so largely sold for medical purposes, under the name of lunar caustic, is frequently seriously contaminated by the addition of foreign matter. The pure nitrate,

it may be mentioned, should contain 63.5 per cent. of metallic silver. The adulterating bodies that are met with in commercial samples are, as a rule, pretty much the same in all cases, and consist principally of nitrates, those of the alkali metals and of copper and lead being of most common occurrence. Traces are also sometimes, though more rarely, to be detected of the sulphates of soda and potash. In regard to the first enumerated class of adulterants, samples which contain nitrate of copper or nitrate of lead should never be selected for the preparation of photographic baths, stock solutions, or emulsions, as the presence of either of these, even in small quantity, is, even in the hands of experienced operators, almost certain to be productive of unforeseen chemical reactions of a harmful description.

Nitrate of copper may be detected in an adulterated sample by concentrating the silver bath by evaporation, and then adding to a small portion thereof a few drops of an aqueous solution of potassium ferrocyanide. If the resulting precipitate is white in color, the absence of salts of copper may be inferred; while, on the contrary, the formation of a brown or brownish-white precipitate may be taken as a certain proof of the presence of some compound of that metal.

The detection of lead nitrate as an adulterant of a silver solution may be easily effected by precipitating the silver as chloride by the addition of dilute hydrochloric acid, and then adding strong solution of ammonia in excess. If, on thoroughly shaking the mixture, the precipitate is wholly dissolved, it may be concluded that no lead is present. Should, however, an insoluble white residue be left, the fact will indicate that the silver salt has probably been contaminated by admixture with a plumbic compound.

As regards the possibility of adulteration with sulphates, these, when present in a sample even in minute proportions, may be detected and speedily got rid of by treating the silver bath with a weak solution of barium nitrate, and then filtering the mixture, should the latter operation be found necessary owing to the precipitation of the expected impurities as barium sulphate. Provided the test solution of the barium salt be not unduly concentrated, the addition of free barium nitrate to the bath will not impair the properties of the latter as respects the purposes for which this is ordinarily required.

The use of distilled water for the preparation of stock solutions both of chloride of gold and potassium chloroplatinite is strongly to be recommended; and, as has already been mentioned, such a solvent is an absolute necessity in the case of the nitrate of silver bath.

When prepared, the solutions of the three salts in question should always be preserved in glass-stoppered bottles; and as these, in the course of the daily manipulations, are likely to be sometimes exposed to actinic light, the contents of each bottle should be carefully shielded from the risk of possible decomposition by the solar rays, by covering it with a protecting layer of opaque paper. As regards the silver bath in particular, this latter precaution should never be neglected, on account of the well-known fact that silver nitrate solutions, especially in the presence of traces of organic matter, are peculiarly liable under such circumstances to undergo chemical change.

(To be continued.)

THE NEW STYLE MODEL

THE artist's model is fast giving precedence to the photographer's model, and the latter young lady has it all her own way if she has a pretty face and figure.

Photographs are being used more and more for illustration and advertising purposes, and each photographer who makes a specialty of this sort of thing has a list of models he continually employs.

Many of these are employed in the chorus, but the most of them have no other occupation, and indeed they need none, for they are well paid, and if they have the right face and figure they have continual employment.

To be well groomed is essential to the photographer's model. The camera has a trick of revealing its sitter's bad points as well as good ones, and rough hair or poorly kept nails show up only too distinctly.

The model must have regular, clear-cut features and a fine poise of the head and shoulders.

A certain fashion illustrator saw a very stunning girl seated at a telephone board and on the spot engaged her as a model. He had not seen her standing, however, and it was found that she was very petite, too much so to wear the ornate Parisian creations he was advertising. The difficulty, however, was remedied by standing her on piles of books, boxes, etc., and with the truly regal carriage of her head and shoulders she suggested when clad in sweeping gowns a stately woman six feet tall. The demand for pictures in which she poses more than justifies the photographer's keen judgment.

The stout figure is not desired as a model. She is unwieldy to pose, and the camera seems to take a fiendish delight in magnifying her.

The girl who has no animation in her face is another drug on the model market. She must be adaptable and pose in sympathy with the gowns or subject she is illustrating.

Some models are better for advertisements, others for fashion work, according to the amount of expression or of figure required.

The average model must lead the simple life instead of the gay whirl of pleasure we are accustomed to associate her with. The camera, unlike the artist's brush, does not flatter, and late hours bring circles around the eyes and a puffiness to the cheeks which no amount of retouching will take away.

A HEAD

To give grace, natural ease, and all that which makes a picture attractive, to a single head, is one of the difficulties with which portraitists have to contend. It may therefore be worth our while to inquire what are among the causes which contribute to success in this particular.

Extraordinary beauty, or an expression which speaks a silent language to the beholder, one with which we may hold, as it were, converse, is the first and highest quality of a single head. For it is obvious that, when so little of the figure is seen, the only excuse for representing it doing noth-

ing, for it has no relation with any accessory, is because it is worthy in itself of being looked at.

A particular dress or costume is often considered a sufficient reason; but we hold, with Lenbach, that it is a prostitution of art to appeal to the seamstress or tailor by putting costume upon an unattractive subject.

In the next place, all the powers of formation which art possesses are necessary, even with a beautiful and expressive countenance, to make so abridged a representation truly effective and equivalent to pictures which contain more to attract.

It may be observed that every picture, no matter what it contains or represents, should be calculated for the effect it will produce when brought into comparison with other excellent work in an exhibition.

For instance, in a gallery of paintings we find that a single head of some renowned painter will bear down before it large masses of figures by inferior painters, so that it is not because it is part of a figure or a small picture in itself that a head must necessarily be without much interest. The fascinating effect which is produced by the proper management of light and shade requires the skill and experience of a master, and to attempt to show in what that fascination consists would be to unveil —were it possible—all the resources of the art.

We can, therefore, study from the masters of our profession when opportunity affords, as it does at conventions or in the pages of journals devoted to illustrative artistic photography. We may be able to imbibe their conceptions even though we are not able, perhaps, to reduce their general principles to formula for guidance. But in minor things there are some observations to be made on the general practice of the best portrait photographers:

The placing of the head, for instance, rather high on the plate is always to be observed. The contrary proceeding gives the suggestion of a short person, or the impression that we need some more of the figure.

The next thing to attend to, which is not so easily done as mere placing in position, is to avoid a truncated appearance at the lower edge of the picture where the arms and body are cut off by the mount. When the bend of the arms can be shown, they look less glued to the sides of the figure; but even a very graceful action of the arms when cut off a little above the elbows may produce a very unpleasant and awkward-looking effect. The action itself has, however, something to do with this, and it is better to let the portions of the arms take the direction which is least unpleasant, without thinking what becomes of them afterward, than to imagine a complete action which may not, as above observed, be pleasing seen in piecemeal. The safest way, however, to get over this truncated appearance is, as we suggested in our paper on full lengths, either to lose the lower part in drapery or to merge the outline if seen in shadow or light; in short, to do away with any suggestion of division or cutting off by hiding the intersection. Skilful vignetting may aid sometimes, but in the majority of times it is very inartistic. Vignetting is but little appreciated in modern photographic art, and perhaps the art is all the better for the neglect.

The making of the head conspicuous is indeed the *sine qua non* of this branch of our art and will be neglected only by those artists who have theorized themselves out of the first and obvious requisite of a picture, viz., that the greatest attention must be

paid to, or at least directed to, the parts which are most important.

The grace and ease which are sometimes eminently pleasing in pictures of only head and shoulders depend on truth of proportions.

To render a common and natural action well, seems, in so small a portion of the figure, a matter of not much difficulty; but if it were not really so extremely difficult we would see it oftener well done. The cause of failure generally is the fitting on of a neck and shoulders to a face without studying the harmony of the action as well as the proportion.

Too little regard is taken of the principle which we see carried out to such perfection by the ancient Greek sculptors, of suiting the action of the body to the expression and pose of the head.

A torso, a mere fragmentary trunk of the exquisite work of Phidias or Praxiteles, is often all we have, yet from the wonderful truth and harmony of the mutilated remains we can still conceive something of the pose and the beauty of expression of the lost head.

Photographers care little for the natural pose of the body; often the head is all out of harmonious relation with it, and the picture leaves upon us an unpleasant impression because it is unnatural.

The more the representation is confined to the head, the more the head should not only be effective and attractive, but the more it should have in it an expression and appearance which in nature would force us to forget the rest of the figure.

A mere head, perhaps, is always best represented looking at the spectator, and if it has a depth of expression and something uncommon which realizes or accords with some unuttered thought, in addition to all the other charms of light and shadow effect, it will rivet the spectator's attention.

But it is much better in fancy subjects, where the artist is not constrained to picturing the head alone, to introduce the hands. The difficulty of getting over the truncated effect is greatly diminished, and what is of more importance still, a definite and noticed expression can be given throughout of what we see of the figure.

It is true some difficulties are increased, such as the skilful management of the light, now rendered complicated by the spots formed by the hands, the paramount importance and necessity of making the general masses take pleasing shapes.

The hands, when thus introduced, should serve only to increase the expression of the picture; a more positive part they should not play.

The actions and feelings of a figure in a portrait or fancy subject of this kind are sufficiently united if reduced to those truly interesting.

We must always remember that the picture is supposed to exhibit the particular mind of the man or woman being represented. The representation of a man with his hands extended, as if speaking to or about to receive some one, may be excused if the artist desires to express some individual peculiarity, but is worth nothing as a means of affecting or impressing the spectator. To do this the person represented must do something or look something which exhibits him in his essential and peculiar character, not his accidental character. A deviation from such a principle is less pardonable in fancy subjects, because the character there is left to the artist's own selection, and a work of this kind is hardly a portrait.

But we perceive we are wandering into a talk on full lengths again, and

to return to our topic we remark that in ideal subjects it is obviously safest to let the character and expression agree with the age and sex of the person. A lovely woman, for instance, will be more attractive, because more generally natural, with an expression of tenderness than with a look of profound meditation or grief.

Next to expression should be considered all that contributes to heighten the effect of this union of the physical and normal character.

Titian makes his female heads really women by the flow of soft luxuriant hair waving with parts loose on the shoulders. He has a peculiar penetration in catching what is truly nature. His half-tints are composed of imperceptible gradations on the cheeks, forehead, neck, and bosom, and thus the features tell with power. This is what the photographer may effect with management of his light, as we have before remarked in touching upon light as a factor in expression.

The greatest contrasts in the figure have been placed by nature in the head, where the shadows of the hair give value to the face, and in the face, where all the features should tell more than any accidental shades. The eye has more contrast for its lightness, darkness, and sparkle than any other feature.

PRACTICAL HINTS ON COLORING LANTERN SLIDES

BY WILLIAM GREEN

As it is not within the reach of every lanternist to become the happy and proud possessor of a cinematograph, with an endless supply of films and animated pictures wherewith to amuse and entertain an audience, be it an entertainment for the public or simply a quiet gathering of friends, and presuming that the lanternist is an enthusiastic photographer and lantern slide maker, I purpose in this article to give a few practical hints on the coloring of lantern slides.

It is often remarked (and in many cases correctly so) that coloring spoils a lantern slide. With this I do not altogether agree. It is true, that some coloring does spoil a slide, but if there is any degree of artistic ability in the artist who colors the slide, then coloring should not detract from the beauty of the photograph, but should materially assist it.

It would be quite useless for anyone who has not a taste for this class of work to attempt to produce a " work of art," no matter how painstaking or persevering they may be. To be successful in this branch of lantern work it is necessary that the colorist should possess a wide knowledge of the correct color of objects as seen in every-day life. I fancy I can hear some of my readers saying that everyone knows the correct color of common every-day objects, but what will you think when I tell you that I once had a slide given to me to recolor that had emanated from one of the lantern-slide publishers. It was a very near-sighted man reading a notice board in the park, on which was boldly printed, "Keep Off the Grass." The funny part of the subject was, that the grass was painted bright blue. Personally, I have never seen blue grass growing in any of the parks I have visited, but possibly the artist (?) who painted this slide may

have been in some distant part, that it has not yet been my good fortune to see, where blue grass nourishes.

Without any further introduction, and as the space at my disposal is limited, I will now proceed to give the hints I promised.

Before commencing the actual work of coloring the slide, we shall require the following materials:

1 Tube of W. and N. crimson lake.
1 Tube of W. and N. Italian pink (yellow).
1 Tube of W. and N. Prussian blue.
1 Tube of W. and N. brown madder.
1 Tube of W. and N. neutral tint.
1 Tube of W. and N. madder lake.
1 Tube of Rowney's burnt sienna.
1 Tube of Rowney's ivory black.
3 Camel hair brushes (large); 2 camel hair brushes (medium); 2 camel hair brushes (small), with sticks about 5 inches long, to fit.
1 Sable spotting brush.
1 Needle point for removing small hairs or pieces of dirt and dust from the slides.
1 Hard wood stick.
1 Cedar wood stick.
2 Leather stumps (1 thick and 1 medium).
1 Brush rest.
1 Piece of opal about 6 inches square, for mixing the colors on.
Some white cartridge or lining paper.
A rest for working on.
Copal varnish.
Turpentine.
A stick of Indian ink.
Small saucer.
Tube of flake white.
Some clean linen rag (free from fluff).
A grooved lantern slide box.

The majority of the above articles can be purchased from any good artist's colorman, and the remainder are made as follows:

The Needle Point. Procure a piece of hard wood, about the length and thickness of a lead pencil, cut one end to a point, take a short fine needle, break the eye off with a pair of pincers, force the blunt end into the sharpened piece of wood, smooth off the end of the stick and it is ready for use.

Hard-wood Stick. Take a similar piece of wood to the above and sharpen to a fine point, hold in the flame of a match to just scorch the end. This is used for picking off the color in small places, or ornamental lettering, etc.

Cedar Wood Stick. This being softer, you need not sharpen to such a fine point, and will be useful for clearing off the color from the faces of figures, etc.

Brush Rest. Any piece of wood about an inch square and about 5 inches long, cut pyramid shape, with grooves along the top to rest the brushes on when not in use.

A Rest for Working On. This is made from a piece of hard wood, 12 inches long by $1\frac{1}{2}$ inches wide, and $\frac{3}{4}$ inch thick. About 1 inch from each end nail on a piece of wood an inch high, to form feet. This brings the top of the rest up to a comfortable working height. Having now furnished ourselves with the necessary tools, we will proceed to color a slide, and here it is necessary to mention that a good light is a great help in this class of work.

Lay a sheet of cartridge or lining paper, about 12 x 10 inches, on a table in front of a window, put the rest on the front edge of same, the piece of opal at the right, the brushes just in front of the paper, ranged up on the brush rest, from smallest to large (the largest should not be thicker than a lead pencil), with the needle point, sticks, and stumps lying near. In front of the opal nearest the window, put the copal varnish, a small quantity of which we must put into a small bottle with a wide mouth, and into a small cup or saucer pour some turpentine. At the extreme left, stand the lantern slide box with the clean linen rag beside it.

Everything being quite ready, we now select a slide for coloring, and presuming that the one chosen is an average landscape scene, with a winding path, overhanging trees, rustic

fence, a cottage, and behind this a church, backed by some distant hills.

We must now look carefully over the slide and see if there are any defects, such as pinholes to fill up or black spots in the sky or light parts. We find a small irregular, white hole in the film on the dark tree trunk, and as this will show up so much stronger when the slide is thrown on the screen, we take the stick of Indian ink, a little water in the small saucer, and rub the ink until we have a thin black liquid; then take the sable spotting brush and dip this into the ink, and carefully fill in the white hole until it has been made to match the surrounding part of the picture. Be sure and not paint over the edge of the white hole, or you will have a nasty black ridge of color. Having remedied this defect, we find, on again examining the slide, that there are a few black spots on the clear sky, and as there are some nice natural clouds printed in, with good strong contrasts, we cannot pick out the black spots with a needle point, as it would make white holes. We therefore put in a few birds. This is done by means of the spotting brush and Indian ink, making the black spot the body of the bird, and with two short fine strokes paint in the wings. If there are only two or three specks on the sky it will be necessary to add more birds, or the two or three would look ridiculous if they were together. Being satisfied with the general appearance of the slide, we now put out on the opal a little Prussian blue to paint in the sky.

Take the largest brush (which should always be kept for blue) and having dipped it into the varnish, then dip it into the turpentine to thin the varnish and work out some of the blue on the opal until a little darker than the required tint, brush this over the sky, and if only a small sky, it can be carefully painted in to the exact shade required, but if a large expanse of sky, you will not get a nice even layer of color, so that it will have to be smoothed down. This is done as follows: After having put the blue on the slide, with the ball of the third finger of the right hand, commence to dab the color, beginning at the horizon and gradually working up to the edge of the slide.

When all the blue has been dabbed over, dip the finger into the turpentine, wipe dry on the linen rag, and commence again, repeating this over and over until a clear, even tint of blue is obtained, always remembering that the horizon should be lighter than the zenith. We shall now find that in fingering the blue we have covered over some parts that should not be. To remove this we take the largest of the leather stumps (and here I should mention that paper stumps are of no use for our purpose, on account of the woolly nature of the paper, which would leave a lot of fluff on the work), dip the top into the turpentine, twist it to as fine a point as possible with the linen rag, and then very carefully wipe off the superfluous blue, taking care not to run over on to the sky. If there are any branches of trees or chimney stacks, etc., that are too small to clean off with the large stump, use the smaller one, or the cedar stick.

If the sky is very large, it is improved by a few clouds. These are put in by picking off the blue with the stump and softening the edges to give them a natural appearance.

I cannot give any instructions for producing natural clouds, as the shape, etc., entirely depends upon the artist's ability.

If there is any part of the sky that is likely to be worked into with subsequent colors, we must dry the first color before commencing the second.

To do this we must have some kind of oven, and a very good one can be got for a dollar or two at any oil shop, such as are used with the small paraffin stoves, costing another dollar. Light the stove, stand the oven on the top until it is quite hot, then put the slide on the loose tray, close the oven door, and leave for some minutes until the color is quite dry. The time required for this will vary according to the heat of the oven and the amount of varnish or turpentine used in mixing the color. When sufficiently dry, take out and allow to cool.

We next proceed to paint in the ground color. For this we must put a little burnt sienna, crimson lake, and Italian pink (yellow) on to the opal. Having taken a smaller brush, we dip it into the varnish and turpentine and mix a very small quantity of crimson lake with a larger proprotion of yellow and brown, until we get the required shade, then commencing at the most distant portion of the ground, we spread the color as evenly as possible, making it a little darker at the foreground of picture. When this is done, we must carefully pick the color off any small stones that are in the path with one of the sticks we have made, leaving them white. If there are any buildings in our picture, we must next paint these. To get the right tint of color we dip the brush we are using into the varnish and work the color out on the opal until it is a pale stone color, and proceed to paint as before.

As the cottage in our picture has a tiled roof, we take a little more crimson lake and burnt sienna and mix together until we get a nice red brown, and with this we paint the tiled roofs and chimney pots, if any.

Having now flatted in the plain colors, we must shade them to give roundness to the general appearance.

It will be best for the beginner to again dry or bake the slide to prevent the color used for shading washing up the primary colors. For shading we take a little Prussian blue, ivory black, and crimson lake, mix with a clean brush dipped as before, and blend the colors until we get a purplish gray tint, then very carefully shade the parts of the picture away from the source of light, taking great care not to make the edge of the shading nearest the light too hard, otherwise the color will have quite an opposite effect to the one we are seeking to secure. When the sides of the cottage, church spire, etc., have been shaded, we must look at the foreground and see if there are any mounds of earth, fallen tree trunks, etc., that require bringing out from the ground, and if so a judicious touch of color here and there will soon give them the necessary amount of relief. After each color is finished, wash out the brush in a small cup or saucer of turpentine (not the same as we are using for mixing with varnish), wipe dry, and put away on the brush rest ready for use when again required.

After shading the flat colors, we next prepare the green. This is done by taking a very small quantity of Prussian blue and considerably more Italian pink (yellow), mix well together with varnish and turpentine until you get the desired shade.

As there are so many different shades of green used in painting, it is impossible to lay down any hard and fast rule as to the quantity of each color to mix, but it must always be borne in mind that we must paint in the distance first, and as the distant greens, owing to the atmosphere, always look much bluer than those which are close at hand, we must be very careful not to get one color too yellow or too heavy, as we can always

strengthen up the foreground, but cannot do so to the distance.

Having finished the green on the hills at the back of the church on the slide, we add a little more yellow and gradually strengthen up the color for the nearer trees, until we have a good bold green on those in the immediate foreground. The tree trunks and fence next attract out attention, and mixing some brown madder with a little ivory black, we get the right tint for these.

Plain black is now used to shade up the darkest parts, after which we must look to see if there are any wild flowers growing in the hedges, and if so a touch of blue, red, and yellow will considerably improve and brighten the picture. If we have a number of slides to do, we must go through the lot with each color before commencing the next, and for this purpose we keep them in the grooved lantern slide box at our left, to prevent dust falling upon the wet color. Should there be any short hairs or pieces of fluff settle on the slides during painting, pick them off very carefully with the needle point.

If there are any figures in the picture they must be colored, using brown and black for most of the clothes and the hands and faces tinted with a mixture of crimson lake and yellow to the desired shade; or if any difficulty is experienced in this, use a little madder lake, which will give you a nice flesh color when worked out with a little varnish.

If the right color for shading seems to baffle your efforts to mix, use a portion of the tube of neutral tint.

Having looked the slide over to see that we have not forgotten anything, we next write the title on a mask of suitable shape with flake white. Place this on the slide, a clean cover glass on top, and bind the whole together, and if you have followed these hints with patience and attention, the result should be satisfactory.

COLD WEATHER

For the next few months where cold weather prevails due allowance should be made for a change in the action of all chemical solutions that are used in a chilled condition.

This applies particularly to developing solutions. Cold developer will act slower than developer at normal or above normal temperature.

We believe this is generally understood, but we mention it at this time of the year lest you forget.

Supposing you expected your developer to work as freely and quickly as it did in hot weather, what would be the natural result? Over-exposure.

In other words, instead of giving a normally exposed print time enough to develop, you would consider it under-exposed and increase the amount of exposure on the balance of the prints so that they would develop up at the usual speed. This would mean an overtimed batch of prints. Prints with increased contrast, blocked detail, and a general muddy appearance. Extreme over-exposure would produce flat muddy prints.

One way to avoid such a condition is to keep your developer at normal temperature, which is 65° Fahrenheit, but as it is not always convenient to do so, we caution you to beware of over-exposure.

No. 1. "A MASK"

By The Lerski Studio
Milwaukee, Wisconsin

No. 2, "HUMILITY"

By The Lerski Studio
Milwaukee, Wisconsin

No. 3, "SUFFERING"

By The Lerski Studio
Milwaukee, Wisconsin

No. 4, "MAN WITH PIPE"

By The Lerski Studio
Milwaukee, Wisconsin

No 5. "RENAISSANCE"

By The Lerski Studio
Milwaukee, Wisconsin

No. 7

By The Lerski Studio
Milwaukee, Wisconsin

No. 8, PROF S. KISHLEMANN

By The Lerski Studio
Milwaukee, Wisconsin

No. 9, BRUNO FINK

By The Lerski Studio
Milwaukee, Wisconsin

SIMPLE SEPARATE PERSONS

Illustrated by the Lerski Studio

BY SIDNEY ALLAN

THE work of the Lerski Studio, of Milwaukee, Wis., is a constant surprise to me. I do not understand how anybody can earn a living with such exceptional work. For there is surely a greater demand for pleasing presentations, elegantly and superbly rendered, than for exposition of character and fundamental realization of complete human entities, such as Mr. Lerski strives for. Well, that is none of my concern; but it is my concern as a critic to give this work its due place in professional photography.

Lerski is Teutonic to the finger tips. The Dührkoops, Erfurths, Grainers, etc., have at least one ardent disciple in this country, and the thousands of German prints which in recent years have flooded our conventions, as intellectual fertilizers, have not been shipped in vain. Lerski is a newcomer, and yet his "style" attracted attention almost immediately, and it is no denying prophecy to foretell his coming success. His work, becoming more and more skilful, is on legitimate lines. His aims may be a little unusual, out of the ordinary run; but after all they fall within the province of what people are learning to consider, without undue strain on their imagination, as desirable qualities in the art of portraiture.

His use of the photographic medium is founded on those methods common in Germany, but those methods have become modified by his personal tastes and an unusual degree of skilfulness; and it is by his own development of these methods that he is enabled to obtain qualities that are unusual and attractive. The interest of Lerski's art, then, lies mainly in its manner. He endeavors to combine two fundamental qualities of portraiture—the appreciation of a subject for its own sake and the desire to fit it in with his rather fixed ideas of what is suitable for art production.

His methods are admirably suited to the purpose. Notice the size of his heads. They are unusually large throughout. He concentrates all interests upon the face. There is no unnecessary display of accessories. Only the hands he is fond of utilizing. If the planes of a face are very large, they demand special attention. Without it they would grow hopelessly monotonous. A finer appreciation of values is the natural remedy. This necessitates special lighting, to lose as little of the modelling as possible. And the final result is plasticity of effect. His portraits are, one may be permitted to say, composed in high relief, with strong highlights, deep shadows, carrying out a special chiaroscural scheme in each instance. This feeling for roundness produced by unusual light and shade arrangements is the mainspring of Lerski's originality. He adds to this his peculiar skill of interpretation. He is not so much a reader of character as an observer of the structural characteristics of a face. He seems to realize without much difficulty in what light it will look best. People who value the expression of character in a portrait above all other qualities will agree with me that his prints represent "simple separate persons." There is no deadening uniformity of conception.

Of course, no artist is at all times equally efficient. He is apt to overshoot the mark. Figs. 2 and 3 go entirely too far in *bizarrerie* of effect. No matter, whether they represent an actor in the agony of some high-strung moods, which intends to be picturesque in the bargain, they are neither beautiful nor particularly interesting. Like the French critic who exclaimed "*C'est lache*" when he witnessed the torturing scene in "La Tosca," I wish artists (of any kind) would refrain from vagaries that cause distress to other people.

Mind you, I admire the hands in Fig. 3 and find much to praise in the flesh tints of Fig. 2; but I do not fancy them in their special surroundings. Also Fig. 1, which we will call "A Mask," is not an attractive arrangement. It has neither grace nor charm, but it is strong. It has, like Fig. 5, a true pictorial quality. Here is, at last, a man who understands light and shade as a painter does. And these extreme examples expound perhaps better than more ordinary ones the value of innovation, for carefully calculated and skilfully executed methods of skill, as, say, "pictorial" lighting, are an innovation in American portrait photography. Top light with all sorts of unexplainable reflections were hardly ever natural as the result of forethought and imagination.

Lerski's pictures are always full of contrast and harmony as far as the manipulation of light and shade is concerned. Observe, for instance, the subtle differentiations and gradations of tone around the eye in Fig. 5. You may argue the effects are forced. Well, which do you prefer: a virile representation of life, division and separation of values, or a monotony of tone which can yield merely a shadowy representation of character?

Fig. 4, "Man with Pipe," is a good character study, not particularly interesting, however, as a composition. The wrinkles on the forehead look a trifle forced.

Fig. 6 is an excellent study of a lady's head. There is always the same sharp, decisive, yet fluid touch in the highlights, and a peculiar transparency in the shadows. This picture shows, furthermore, a fine sense of pictorial effect.

But all these pictures discussed up to now do not belong to the domain of portraiture. Examples of straight portraiture we find only in Figs. 7, 8, and 9, and it seems to me that Mr. Lerski does his best work in that necessarily more limited range of expression. The unusual is forgotten. He strives to get at the character of the sitter, and his pliable methods, that sometimes fail him in his more ambitious effort, obey him completely in these instances. There is little to criticise in these portraits. They look like "simple separate persons." They show advantageous lighting, clear modelling, clever placing of the head, and an animated facial expression. There are no conspicuous mannerisms and yet the expression is peculiarly personal.

Lerski is a breathless experimenter and will meet with many difficulties. Who would enjoy absolutely plain sailing? But he will go his own way. He will not follow fashions but rather set them. He feels the necessity of expressing himself in his own way, according to his own inborn sense of the fitness of things and without reference to outside opinion.

HIGH lights in harsh negatives can be softened by covering the glass side with matt varnish and scraping it away where the dense portions are. Print in the shade or under tissue paper.

THE STUDY OF PHYSIOGNOMY

THE painter to become the successful artist must know more than his pigments and brushes; he must if he specializes in portrait work or figure painting have a comprehensive knowledge of anatomy and physiognomy.

The portrait photographer must understand equally well his materials and his subjects, though naturally his knowledge of anatomy need not be so extensive.

A knowledge of physiognomy will however prove of great value, as by being able to determine the leading characteristics of his subject he can more readily get in sympathy and secure poses and expressions both truthful and natural.

There is little extant on the subject of physiognomy that is more comprehensive than the works of Lavater, and the following observations compiled from his writings by Shirley C. Hayes and published in a recent issue of *The Editor* will greatly aid the student in this fascinating science:

"The bare head which is circular when seen from behind is the best; the flat denotes mediocrity, often weakness, and the gradually pointed, or conical, folly.

"The longer the forehead, the more comprehension and less activity.

"The more compressed, short and firm the forehead, the less volatility in the man.

"The more curved and cornerless the outline, the more tender and flexible the character; the more rectilinear, the more pertinacity and severity.

"Perfect perpendicularity from the hair to the eyebrows, want of understanding.

"Perfect perpendicularity, gently arched at the top, denotes excellent propensities of cold, tranquil, profound thinking.

"Projecting; imbecility, immaturity, weakness, stupidity.

"Retreating, in general denotes superiority of imagination, wit and acuteness.

"Square foreheads, with extensive temples and firm eyebones, show circumspection and certainty of character.

"If thou hast a long, high forehead, contract no friendship with an almost spherical head; if thou hast an almost spherical head, contract no friendship with a long, high, bony forehead. Such dissimilarity is especially unsuitable to matrimonial union.

"I have seen no man, hitherto, with sharp, projecting eyebones, who had not great propensity to an acute exercise of the understanding and to wise plans. The eyebrows must be simple, horizontal, and from above must present a pure curve. Eyebrows with defined, firm arches I have never found but in noble and in great men. All the ideal antiques have these arches.

"Eyebrows regularly arched are characteristic of feminine youth.

"The rectilinear and horizontal are masculine.

"Arched and horizontal combined denote masculine understanding and feminine kindness.

"Compressed, firm, and the hairs running parallel, as if cut, are one of the most decisive signs of a firm, manly understanding, profound wisdom, and a true and unerring perception.

"I never yet saw a profound thinker or even a man of fortitude and prudence with weak, high eyebrows.

"Angular, strong, interrupted eyebrows ever denote fire and productive activity.

"The nearer the eyebrows are to the eyes, the more earnest, deep and firm the character; the more remote from

the eyes, the more volatile, easily moved and less enterprising.

"Blue eyes are generally more significant of weakness and effeminacy than brown or black. True it is, there are many powerful men with blue eyes, but I find more strength, manhood, and thought combined with brown than with blue.

"Choleric men have eyes of every color, but more brown, and inclined to green, than blue. This propensity to green is almost a decisive token of ardor, fire, and courage.

"I have never met with clear blue eyes in the melancholic, seldom in the choleric; but most in the phlegmatic temperament, which, however, has much activity.

"The open eye, not compressed, forming a long, acute angle with the nose, I have seldom seen but in acute and understanding persons; or the eyelid forming a horizontal line over the pupil, that did not appertain to a very acute, able, subtle man.

"Without some slight sinking in, or excavation, in the transition from the forehead to the nose, we are not to conceive any noses to be physiognomically great.

"Noses which are much turned downward are never truly good, truly cheerful, or noble, or great. Their thoughts and inclinations always tend to earth. They are cold, heartless, close, incommunicative, often maliciously sarcastic, ill-humored, or extremely hypochondriac or melancholic.

"Noses which are somewhat turned up at the point and conspicuously sink in at the root, or top, under a rather retreating than perpendicular forehead, are by nature inclined to pleasure, ease, jealousy, pertinacity. At the same time they may possess refined taste, eloquence, benevolence, and be rich in talents.

"Small nostrils are usually an indubitable sign of unenterprising timidity. The open, breathing nostril is as certain a token of sensibility, which may easily degenerate into sensuality.

"Whatever is in the mind is communicated to the mouth; as are the lips, so is the character. Firm lips, firm character; weak lips and quick in motion, weak and wavering character.

"Well-defined, large and proportionate lips, the middle line of which is usually serpentine on both sides, though they may denote an inclination to pleasure, are never seen in a bad, mean, common, false, crouching vicious countenance.

"Very fleshy lips must ever have to contend with sensuality and indolence; the cut-through, sharp-drawn lips, with anxiety and avarice.

"A mild, overhanging lip generally signifies goodness. There are innumerable good persons, also, with projecting under lips, but the goodness of the latter is rather cold, fidelity, and well-meaning rather than warm, active friendship.

"I am convinced that the projecting chin ever denotes something positive, and the retreating, something negative. The presence or absence of strength in a man is often signified by the chin.

"The pointed chin is generally held to be a sign of acuteness and craft, though I know very worthy persons with such chins. Their craft is the craft of the best dramatic poetry.

"The soft, fat, double chin generally points out the epicure.

"The angular chin is seldom found but in discreet, well-disposed, firm men. Flatness of chin speaks the cold and dry; smallness, fear, and roundness, with a dimple, benevolence."—*Photo Digest.*

MODERN lenses and modern mediums are not art in themselves.—*Garo.*

WHY DO THEY DO IT?

DEMONSTRATORS in general, the boys *who know* by their experience in demonstrating plates and paper, are agreed on one thing, and that is the tendency of many photographers to try to work photographic material without following directions.

They also agree that in nine cases out of ten where trouble is reported, it is due to the direct violation of directions or to the use of some pet formula.

Probably a formula for developer, "a universal developer," guaranteed (by the photographer) to work on anything. It does; but when it comes to results, that is another story.

Results are not right, and the photographer, with an injured air, wants to know what is wrong with the plates or paper, as the case may be.

Strange to say, it is hard to convince the photographer that his pet formula is to blame even when the demonstrator proves by actual test that if the proper developer is used the results are right.

In a good many cases the photographer is very much surprised to learn that he is doing exactly what he should not do. He argues with the demonstrator that he is right, and when the demonstrator shows him the manufacturer's direction sheet, he admits that he never read it.

Direction sheets are enclosed in each package of photographic material at some expense to the manufacturer, and are there as a guide to good results. Directions given by the people who make the goods, and yet they are usually discarded with the wrappings as being of no value.

When a new product or something different is tried in a studio for the first time, the directions are probably read over and followed *in a way* as far as convenient. If the results are pleasing, all right and good; they are accepted. If failure follows, the product is to blame.

Then another thing, a man may start out properly and follow directions with the success he should have. He becomes familiar with the product, and really has no further use for directions. He is getting satisfactory results.

In the meantime the manufacturer, always striving for the best, may have made an improvement. Some slight change in the working directions that is far better. He accordingly revises his directions, and the photographer works along in the same old way, because he is satisfied and never gives the direction sheet a second glance.

It is well from time to time to compare your method of working with the direction sheet that you find in the package. It may not be revised or changed, but, on the other hand, you may be missing something you should know about, and reading the directions once every two or three months will not ruin the eyesight.

One demonstrator called on a photographer who was trying to produce a certain effect without seeming to know how it should be done.

Instead of looking in the manual or at the directions he proceeded to produce the effect, but much to his annoyance, failed.

The demonstrator asked him what he was doing, and found that the photographer was guessing at how it should be done. He asked, "Who told you to do it that way?" "Nobody," replied the photographer.

Printed instructions were produced,

consulted, and the error was pointed out.

In this case it was prints. They had been laid out in a formidable array to scare the demonstrator to death.

The demonstrator diplomatically explained the cause of failure, and should have easily convinced the photographer that he was in wrong. Not so. After admitting that he had done about everything that he should not do, the photographer was still looking for the reason.

The demonstrator summed up by saying, "You can't expect results if you treated those prints wrong from start to finish as you say you have."

"I know it," said the photographer, "but look at 'em! Look at 'em! Do you call those prints?"

The demonstrator, having a good constitution, is making a rapid recovery, and will be out again in a few weeks. When photographic friends call on him he asks, "Why do they do it?" and nobody knows.

KODAKING AS A BOY'S PROFITABLE HOBBY

[EVERY professional photographer with a boy or two in the family would do well to promote an interest in photography as a hobby. A boy besides getting pleasure and profit from a camera might be of considerable help to his father in an emergency. The following prize article from the *Australasian Photo-Review* shows the possibilities open to any intelligent boy.—EDS. W. P. M.]

"Every healthy lad likes a hobby. It may be stamp, egg, specimen, or other kinds of collecting, all of which, even in the embryo stage of enthusiasm, means more or less expense and trouble. On the other hand, the entrancing hobby of photography can be made a means of profit by the merest tyro, provided he 'knows the knack.'

"I bought my lad a 'Brownie' camera at Christmas, two years ago, after much hesitation — hesitation borne of perpetual warnings from the mouths of incompetents who foretold disaster, or, at the least, a mint of money spent in the materials necessary to produce even a passable print.

"But Harry took to the game as a duck takes to water. He had sensibly read, marked, learnt, and inwardly digested photographic lore to some purpose before he started to spill his pocket-money in films, etc. Within a week he was earning profits sufficient, when saved in a few months, to invest in a Graflex camera with a Ross lens. Now his services, after 18 months, are in constant request about the township for taking photos of his friends' houses, dogs, horses, etc. Nor are his friends his only customers. One photo well taken often brings orders for another. He was asked to 'take' an entire horse. This order brought him $10 worth of fresh work, all done in his leisure, and, mark you, as a pastime, not as a task. His earnings have enabled him to afford a Pocket Kodak. With this his visits to any football, cricket, or sports' meeting result in orders for postcards that enable him to clothe himself and to have 'money to melt' he would not otherwise have; and, further, being a delicate lad, his work in the open allows him to enjoy better health than he would otherwise have, to take a profitable interest in the world around him, and to earn a reputation locally that stands him in good stead socially as well as in a business sense.

"Harry's services are in request to snap the opening of the tennis season. A lady in the next street is a lover of greyhounds. Harry has an appointment to 'take' the lady and her pets. The man who is clipping the street trees has heard of the young photographer's fame. So what is more natural than that Harry to be hailed, as he is passing to an appointment, to take a photo of the tree-clipper at work—a few moments' work that means several shillings profit to Harry. Mr. Fancy, in Mood Street, is a lover of Leghorn poultry, and has some lovely hens. Harry is requested to come along and photograph Mr. Fancy's pets. The inventor of a sparrow trap wishes his invention photographed. Harry is the man he wishes to do the job—and so the hobby, started as the outcome of the Christmas sentiment, means local fame and as much money, or more, as a delicate lad could earn in any other healthy walk in life to call his own in the pursuit of a pastime in which he can make his own pace and be his own master. Of course, to be as successful as Harry one has to be resourceful, tactful, and with a 'nose for views' photographically. Floodtown is growing in importance as an irrigation centre, so Harry 'snapped' the first load of lucerne hay the district produced as it was being carted to the local railway station. This was the nucleus of a small collection of prints that was formed for newspaper purposes. He submitted several to the editor of *The Weekly Times*, a journal that is doing yeoman service in the encouragement of photography in nature subjects. Harry had the gratification of seeing a set of his views reproduced, and he pocketed a nice fee, in addition to receiving congratulations on his artistry from unexpected quarters. Then when our young photographer feels the impulse to go forth to 'take' something he finds that the waste of a plate or two is far from being 'dead sea fruit.' Why, just the other day he wandered forth with a crony, camera in hand. The river was in flood, and Harry has a weakness for river views. He snapped a scene in which water predominated.

"A voice at his side said:

"'Ah! Just the very scene I've been wanting!' Harry turned to the talker —a clergyman. 'Yes,' he continued, 'I took this river scene myself a few weeks back when the river was down. Save me a print, for I am illustrating an article for 'The ———-' and my camera is not available.' So what promised to be an idle snap earned Harry more than the price of a packet of plates; and Harry is not content with the simple, every-day phases of photography; he likes experimenting. He has built himself an enlarging camera. He makes his own developers, and saves money, and earns an inner satisfaction that money cannot buy thereby, for his results are good; and, in conclusion, let me say that if there are any drawbacks associated with Harry's photographic hobby in the lack of a dark-room, etc., Harry has not experienced them. He utilizes the bottom drawer of his bedroom 'Duchess' chest for developing purposes. If a red lamp is not available he just fastens the red envelope usually used to hold the proverbial packet of P.O.P. post-cards over an eight candle electric bulb, and develops safely to his heart's content. All is so simple, efficacious, and interesting, and, as I said before, so fairly profitable without in the least interfering with the local professional photographer's business, although some may be inclined to dub Harry a professional in all senses of the word, in view of his undoubted artistic successes in outdoor photographic work."

ENLARGEMENTS ON CANVAS

BY AUBREY W. DYE

THE following method of making enlargements on canvas will be found to give excellent results. I discovered it while glancing through my copious notes on photography, but unfortunately am unable to say from whom the process originated.

The enlargement may be made direct upon the desired canvas, and may be subsequently "worked up," or used as a basis for oil colors. The canvas is rubbed several times with the following, to remove all traces of grease and other dirt, the mixture being applied with a clean piece of flannel or sponge:

Liq. ammonia (0.880)	1 ounce
Wood alcohol	4 ounces

The following sizing solution is then prepared, and the cleaned canvas which is best bought and treated throughout on a stretcher or frame, is evenly sponged or painted over.

Sizing Solution

Ammon. bromide	35 grains
Ammon. chloride	10 grains
Potass. iodide	80 grains
Gelatine	60 grains
Dry albumen	1 ounce
Water (distilled)	10 ounces

Mix well, and when the chemicals are practically dissolved, warm gently to dissolve the gelatine. Excess of heat must be avoided, as this would tend to coagulate the albumen.

When the above sizing has thoroughly dried on the canvas, the latter is sensitized by applying the following with a wad of washed absorbent cotton, care being taken to spread the mixture as evenly as possible:

Sensitizing Solution

Silver nitrate, recryst.	½ ounce
Acetic acid, glacial	¼ ounce
Water (distilled)	6 ounces

Filter before use.

The sensitizing is, of course, done in the dark-room in a good orange light, and is best performed by placing the canvas on a table, pouring on a small pool of sensitizer, and spreading this evenly over the surface with the cotton already referred to.

The exposure may be made on the wet canvas, or the latter may be dried previously. The result is unaffected. Material prepared as above will be found to be somewhat slower than most bromide papers, but experiments conducted on one or two small pieces will soon determine the correct exposure.

Development is effected with the following:

Lead acetate	5 grains
Gallic acid	30 grains
Water (distilled)	5 ounces

The developer is applied with the wad already used for sensitizing, the silver present being of material assistance in hastening development.

Develop fully, and fix with or without previous rinsing in

Hypo	4 ounces
Water	20 ounces

After ten minutes in the fixing bath, wash as is usual for bromide paper, and suspend the canvas in as dustless a place as possible to dry.

HOME PORTRAITURE FROM THE PROFESSIONAL'S VIEWPOINT

In one of the photo magazines of the year I read an opinion from some located brother to the effect that home photography was a fad and would in all probability die out in a couple of years. In my opinion it is not safe for the man who has all his eggs in the studio basket to take this point of view. Better dispose of the eggs while they are fresh or be quite sure of your cold-storage facilities.

The pet phrase, "I would as leave visit the dentist as the photographer," is of course often sprung for the sake of sociability, but back of this you must know that the great majority of men and women consider a trip to the studio a bore. Not necessarily that they are bored at the studio, but that the fact of having to get ready and go there is distasteful to them. In every community we can calculate that there is about a certain amount of work really desired by the different families in the normal run of events, and it is certain that through procrastination less than half of it ever gets to any studio. Now it cannot be denied that the most of the interests of life centre about the home. Especially those familiar scenes of love, work, and play which fill the days and which pass into the holy of holies of the memory when the child is grown.

Perhaps you have gone after art so hard that you can only see beauty in one of these tree backgrounds of the Old Masters. Your this year's pictures may be on that line. Speaking of fads, these styles that come and go are fads pure and simple, and you cannot for a moment think that you are doing any permanent service to yourself or to the cause of art in "working-in" such grounds in your portraits.

But I am digressing. What I wished to say is that perhaps on account of the studio routine of your work you have forgotten what subjects for real pictures there are in and about the home. Name over to yourself a few of the things which linger in your memory of home. I shall not begin them, for the list is too long.

A generation of training in the thought that a trip to the "gallery" is necessary in order to have photographs made is the thing that holds the people to it. It is a live illustration of how a bad habit will stick. The photographer who is natural and not entirely in a rut, I am sure, would much rather photograph people in their homes than in a studio. It would be a fine thing either for the under-worked or the over-worked studio man to make the experiment of some sittings in the homes.

One thing you may learn quickly, and that is that it requires more knowledge to get the light correctly distributed over a face or figure in a grove or garden, or in an ordinary room, than it does under the skylight. Out-of-doors it is usually a matter of selection or analysis, and in a room of correct manipulation. If you realize that you are not able to do it, can't you feel also a sort of desire to learn to do it?

Are not you tempted to trade the walls of your studio for forest trees or vines in the garden, and your corrugated glass for just ordinary blue sky? I know it leaks like fury, but only when it rains. When you are learning how to get good lightings

out in nature, and in a home window, you are learning natural laws and not the final manipulation of curtains that are made three-quarters right at the start.

I have had nearly twenty years' solid experience in home portraiture, and from the mental attitude of my patrons toward the idea I know that it is not a fad, but that in a generation or two it will be practically the only way photography will be done, with possibly a very few notable exceptions. I am always tempted to think that such men as our best professionals can always bring people to them and retain their studios. But why should this be so when we consider that the real inspiring things, the things that belong to life and are of interest to "take," are in the homes?

I would rather think, for example, of a man like Core being called to California to do work, as a sign of his superiority, than to think of him wishing to stay away from the homes. It seems to me that in the long run the man who will refuse to go to the homes, with his ability, will be in a way confessing to a lack of appreciation of the truth and interest of life, and that there will enter into his soul the germs of deterioration.

But in days to come, when our best men do home portraits, the purse will have to open well in recompense. This is because in all lines of work which require taste and humanity the supply of workmen is under the demand for them.

But this concerns personal excellence. Another problem is the one of simple and average good taste, and the worker who can employ the same in home work. The thing which hinders the extension of professional home portraiture to a great extent is the lack of knowledge of the fundamental laws by which nature makes its effects of light and shade and actinic gradation which are necessary to secure good relief and modelling in photographs. Some of the high-priced home work of the present day is extremely shoppy in appearance, as backgrounds are used which do away altogether with the home effect. These are not the coming home photography, and this kind may be called a fad.

But, in the end, professional home portraiture is just as truly doomed to annihilation as is the studio. Most businesses are constantly going through phases or changes, owing to the development of new inventions and the application of new ideas in method. Photography is a very lively example of this truth. The final stage in the development of photography is not the professional home portraitist but "home pictures by home people." This is inevitable, simply because it is the natural result of progress in learing to use a Kodak or other camera. Only yesterday a clerk in a Kodak store told me that fully half of all the exposures brought in for development were total failures. The average I once found in a finishing record about eight years ago was 79 per cent. It seems there is some improvement, but perhaps it is only that they are sticking closer to "snap-shots."

The amateur is today being educated downward. The popular advertising phrase, "Photography without the bother," should really be read, "Photography without the pictures." These conditions are what make the professional laugh at any warning as to the encroachment of amateur pictures on his business. But these conditions will not always prevail. It is a frail thing indeed that hangs over the head of the profession. It is just a little ignorance concerning the matter of light and shade and values.

The factories are today working overtime building, in the main, the cheapest grades of cameras, the grades that the novice buys and goes on a film-consuming spree with. Advertising today is addressed to this class of buyers. This is good business, but the field will be covered some day except for the growing children.

On the other side of the problem is the absolute neglect of the actinic property of light as a study in the schools. This study of light belongs to physics as truly as the noun belongs to the study of language. In other words, what is needed to know to banish this cloud which gives its protecting shade to the profession is not vague and evasive. It is not something intangible which a man must develop in his own consciousness by years of experience. It is, on the contrary, a very simple set of definable truths, teachable and supremely interesting to learn. It would be a lot more interesting to Mary Jones to learn the truths of light, so as to be able to make correct exposures with her Kodak, than to learn how many cubic feet of dirt would come out of a cellar of given dimensions. She should learn both, of course, but the one she would be interested to use while many of the other things learned at school would be forgotten.

I firmly believe that photography, or the study of actinic light, will come "into its own" some day, and when that day does come it is easy to guess where the profession will be.—F. M. STEADMAN, in *The American Annual.*

TEXTURE

FOR the translation of the texture of natural objects to the flat surface of a picture, the painter is compelled to acknowledge the pre-eminence of the photographic method of reproduction over the most accurate drawing. Indeed, it is impossible in painting to secure a natural texture in the face by any direct imitation of nature.

The artist has recourse to various expedients of scumbling, glazing, and leading up his colors, which give the semblance of the human countenance only when this picture is seen at a certain distance.

True, with the ordinary heterochromatic plate, the flesh, owing to the mixture of yellow with the fairer tints even in the most delicate complexions, can not be had in all the proper tone relations, and even with the orthochromatic film the difficulty is not completed surmounted.

To compensate for this shortcoming recourse is had to retouching, which is legitimate enough if judgment and discrimination are exercised; but frequently the inconsiderate wielder of the lead makes matters worse by obliterating all the beautiful natural texture which the unerring pencil of light has so charmingly delineated.

But much, too much, has been written on the subject of retouching to dwell upon the topic here. Its abuse is not so flagrant as in days gone by, when the eggshell structure was called the building up of the negative. Yet we can not refrain from noticing what an abomination are those marble or plaster-like heads which first-class photographers even nowadays exhibit as artistic studies—devoid of the beautiful gradations of light and shade, set in a drapery which escaped the lead of the re-

toucher and therefore displays with faultless accuracy the texture of the fabric, and, by its very faultlessness rendering the head more unsightly by contrast. Yet such abominations continue to survive, applauded by the public and accorded medals at our conventions.

I do not wish anyone to think that I decry retouching *in toto*. It is accessory, but only accessory; a means to an end, not an end in itself.

With the proper lighting there is little necessity for the assistance of the retoucher. The rule should be: tamper as little as possibly with the natural texture photography gives us by proper illumination, mend defects and flaws of nature by endeavoring to match as far as possible the photograph's rendering of the fleshy envelope; but do not substitute eggshell structure for nature's subtle rendering and demand the artist to admire the *building*.

If a subject is properly illuminated, as I have said, and a just exposure given, there is scarcely any need of the retouching pencil. The development, to be sure, comes in for a claim for successful results, since even proper exposure and illumination may be nullified by improper development; but on general principles the photographer who takes pains to properly illuminate and properly expose is hardly likely to mar his results by careless development.

One great destroyer of natural texture in the flesh is to be found in the improper use of a reflector for the shadow side of the face. Most photographers think that the reflecting screen is a constant and indispensable factor. I have seen a professional photographer, after having secured what seemed to my eyes a charming and characteristic illumination of the delicate tones in the head of a lady sitter, wheel the screen into position without the slightest consideration of the purpose and without any trace of remorse for the utter destruction of the subtle, delicate, and translucent shadow on the side of the face not exposed to the dominant light of his studio. Habit has much to do with such performances, or rather the fear that the shadow side will be too much in contrast to please his patron.

FIXING BATHS FOR PLATES AND PRINTS

HYPOSULPHITE of soda, or hypo, as it is universally termed, is practically the only substance used as a fixing agent. Other substances, such as sulphocyanide, which likewise dissolve silver bromide, have been recommended but very little used, though potassium cyanide continues in use as the fixing agent in the wet-collodion process because of its greater dissolving power on silver iodide; also because the impurities in the commercial cyanide exert a certain "cutting" or clearing action and contribute to the brilliancy and clearness of the lines in wet collodion negatives.

Hypo, if of reasonable purity, keeps for an unlimited time in the dry state without special precautions as to corking or bottling; those who use it in large quantities and buy it in hundredweight casks have no need to fear that its properties become impaired during the time it remains on hand.

Dissolving Hypo

Though hypo is very soluble in cold water it is best never to use cold water for dissolving it. The reason is that, by dissolving, it greatly chills the water; the process of solution then

goes on much more slowly, and the fixing bath when made needs to be warmed or to be left to come to the temperature of the dark room, otherwise it fixes very slowly and is apt to give rise to blisters in prints as a result of the inequality of temperature between it and the developer and the wash water which follows it.

There is no harm in using even boiling water in dissolving hypo itself, but water about as hot as the hand can bear is hot enough. This use of hot water applies to the hypo itself, but not to chemicals such as metabisulphite, with which the hypo may be combined in preparing an "acid" fixing bath. Such chemicals should be dissolved only at a tepid heat.

In making up fixing bath in quantity —in gallons—it is best to suspend the hypo at the top of the water so that the chemical as it dissolves falls down, and thus tends to keep comparatively fresh water acting on the hypo. A porcelain cage or a bag of stout muslin allows of this being done, and either results in much economy of time and attention in making up a solution of hypo or indeed any substance.

A Stock Hypo Solution

As hypo solution is used of different strengths and in admixture with various other substances, according to the plate or paper which is being fixed, it may often be convenient to keep it in an extra strong solution, mixing this latter with water or with solutions of the chemicals used in making the acid or hardening fixing baths. A convenient strength for such hypo stock is one containing 1 ounce of hypo in 2 ounces of the solution. Then instead of weighing out 1 ounce of hypo we measure out 2 ounces of the stock. Such a stock is made by dissolving 1 pound of hypo in hot water, and making up the total bulk of the solution to 32 ounces; or 5 pounds similarly dissolved to make 1 gallon in all. This solution allows of any one of the strengths of hypo solution in general use being quickly made by addition of water according to the following table, which may be cut out and pasted on the jar of hypo stock:

Hypo required per 20 ozs. of fixing bath.	Mix of stock solution.	Water.
8 ounces....	16 with	4 *i. e.*, stock, 4; water, 1.
6 ounces....	12 with	8 *i. e.*, stock, 3; water, 2.
5 ounces....	10 with	10 *i. e.*, equal parts.
4 ounces....	8 with	12 *i. e.*, stock, 2; water, 3.
3 ounces....	6 with	14 *i. e.*, stock, 3; water, 7.
2 ounces....	4 with	16 *i. e.*, stock, 1; water, 4.

Fixing Baths for Plates and Papers

The weakest fixing bath which should be used for plates is one containing 4 ounces hypo per 20 ounces; about as strong as is ever necessary is one containing 8 ounces hypo per 20 ounces. Something between the two, say 6 ounces per 20 ounces, is a good working formula. The exact strength is not material except that if a bath is either too weak (or even too strong) it does not fix so quickly as one of about the strength just given. In the case of a plate it can, of course, be seen whether fixing is taking place slowly or quickly, and so the only result of a wrongly made bath is greater or less waste of time. Not so, however, in the case of paper prints, in fixing which the only safe plan is to use a fixing bath of known strength and allow a sufficient time for it to act.

In the case of bromide and gaslight prints, the image is akin to that on a plate, and a fixer of like strength may be used so far as the image is concerned. But there is another reason for using a bath of somewhat less strength, namely, the liability to frill

or blister which many bromide papers possess if fixed in too strong a hypo bath. One of 4 ounces hypo per 20 ounces is about right. Some makers of bromide papers direct 2 or 3 ounces per 20 ounces, but, as a rule, no ill effects will result from the stronger bath, and the latter has the advantage of requiring less time for its work, and this is all to the good, since bromide papers often do not get the turning over and free exposure to the fixer that they should.

In the case of print-out papers—P. O. P., or collodio-chloride—the hypo bath has an effect on the image, and it is advisable to use a lesser strength, not more than 2 or 3 ounces per 20 ounces. Self-toning papers are in a class by themselves in this respect, since in some cases they are manufactured specially with a view to obtaining a given tone by means of a fairly strong fixing bath. I deal below with the advantages for certain purposes of the acid type of fixing bath, and, therefore, it is necessary to say here that these baths should never be used for print-out papers for the reason that they exert a rather more pronounced effect upon the tone and depth of the print than does plain hypo. On the contrary, an advisable addition to the print-out-paper fixing bath is a little carbonate or bicarbonate of soda. This is particularly advisable in the case of prints which have been platinum-toned since this toner is acid, and though the acid should be all washed out before the prints are passed into the fixer, the carbonate or bicarbonate in the latter is a double safeguard which it is wise not to neglect. A very little is sufficient, say about 30 or 40 grains per 20 ounces of fixer.

I believe in the same thing for the fixing of those self-toning papers where the makers direct putting the prints unwashed into a fixing bath. The paper itself contains acid, as a rule, and the result of placing the prints direct in plain hypo solution *without washing* is to set up a species of toning which is not of assured permanence. The paper, I know, will usually give a better tone in this way, but I prefer to dose the fixer with a little bicarbonate or carbonate and prevent acid-hypo toning. If the result is not so good, one has the consolation that at any rate it will last, which cannot be said for a certainty in the case of the other method. This, I think, ends all that there is to say about plain hypo baths; we can now come to the two other classes of fixing bath, viz., (1) the acid or antistain, and (2) the hardening, which perform the functions of an alum or tanning bath, in addition to fixing pure and simple and preventing stain.

Acid-fixing Baths

To write as I have just done in the preceding paragraph of the evils of acid in the hypo bath, and then straightway to turn to the advantages of an "acid" bath is doubtless puzzling to many. But here is the matter in a nutshell. Of the many acids which exist, one only is harmless in the fixing bath. This is sulphurous acid (the acid of sulphite), and even it is not innocuous except under certain conditions. Roughly we may say that just as sulphite in the developer prevents staining of the film by the developer, so sulphurous acid in the fixing bath prevents staining due to the developer which is carried into the fixer. Sulphurous acid itself (a liquid strongly smelling of burning sulphur) would do, but for the fact that it gradually becomes oxidized to sulphuric acid, and there we should be with a bath which contained the seeds of decom-

posing the hypo; a bath which could not be depended upon for permanent fixation. There is an easy way out of this difficulty. It is to mix the sulphurous acid with some sulphite. The sulphite takes up the sulphuric acid, combining it as innocuous sulphate and liberating more sulphurous acid. In fact, we can go a step further and dispense with the sulphurous acid as such, but use instead a mixture of sulphite and an acid, such as tartaric or even sulphuric. Either of these acids if mixed with a sufficient quantity of sulphite may be added to the hypo bath without fear of decomposing the hypo. I do not think that this is the best method of making the acid-fixing bath, but nevertheless it is a quite practicable method, and one which is largely adopted. The best method, so I think, is to use a substance which for our present purpose may be taken as combining both the sulphite and the acid within itself. This is metabisulphite, and there is no better or simpler acid-fixing bath than one made up, say, as follows:

Hypo (or hypo stock, 8 ozs. fluid) .	4 ounces
Potass. metabisulphite	1 ounce
Water to make	20 ounces

This bath will remain clear as long as it retains reasonable speed of fixing, and its antistain properties are of service equally for negatives and bromide or gaslight papers.

If we choose to compound an acid fixer in another way—a somewhat cheaper way—it is important to bear in mind that the acid and the sulphite should be dissolved in one lot of water, and this solution added to that of the hypo. You must not let the acid come into solution with the hypo save in the protecting presence of the sulphite. Therefore, the formula for the bath should be adhered to both as regards the proportions and the order of mixing:

A

Hypo	5 ounces
or Hypo stock, fluid	10 ounces
Water to make	10 ounces

B

Tartaric acid	160 grains
Soda sulphite, crystals . . .	1 ounce
Water to make	10 ounces

Prepare A and B separately, and mix together to form the acid-fixing bath.

Just a note here as a reminder to those who make much use of the Farmer reducer and are in the habit of preparing it by adding a little ferricyanide solution to an ounce or two of fixing solution. This is not a good practice in any case, but it will not do at all with a fixing bath containing much sulphite. The sulphite destroys the ferricyanide so far as its reducing effect on the plate are concerned, and a great deal more ferricyanide requires to be added when making the reducer in this wrong way. Solution of hypo and of nothing but hypo should be used.

Hardening-fixing Baths

This type of fixing bath is of more use for bromide or gaslight papers than for plates, since frilling troubles with the latter, except in tropical countries, are practically non-existent. In the case of papers, however, it is often necessary to harden the gelatine emulsion chiefly when the prints are to be glazed by squeegeeing or when they are to be sulphide toned. The saving of time, which is effected by performing the hardening process simultaneously with fixation, is an advantage in commercial work, while as regards sulphide toning it is found that the use of a hardening-fixing

bath containing chrome alum favors the production of a good tone.

The principles of compounding an acid hardening-fixing bath are the same as those in preparing the ordinary acid antistain bath, namely, the mixture of an acid with sulphite, and admixture of this solution with the hypo and the hardening solution, this latter either ordinary or chrome alum. Chrome alum is a fairly pure substance as purchased in commerce, but care requires to be taken in buying ordinary alum, since this latter in the cheap variety contains iron and other impurities which give rise to bluish stains on the prints and a degradation of the high lights. It is best to purchase alum which is guaranteed free from iron. As regards the choice of baths for one purpose or the other of the two named above, my advice is to use the chrome-alum formula given below when sulphide toning only, and to employ the alum formula when it is desired simply to harden prints at the time of fixing without subsequent sulphide toning.

The chrome-alum bath is made up as follows:

Soda sulphite, crystals	2 ounces
Water	6 ounces

This solution may be made with aid of heat, but sulphite dissolves best at a temperature of about 100° F. When dissolved add the following mixture, which should be prepared by adding the acid to the water, not *vice versa*, and leaving to cool:

Strong sulphuric acid	2 fluid drams
Water	2 ounces

This mixture of acid and sulphite is then poured into a solution of:

Hypo	16 ounces
Water	48 ounces

and addition finally made of:

Chrome alum	1 ounce
Water	8 ounces

This gives a fixer containing 4 ounces hypo in 20 ounces, a suitable strength of papers and strong enough also for plates.

Now for the hardener fixer made with ordinary alum, or rather, as I have said above, with pure alum:

Prepare first the hypo solution:

Hypo	1 pound
Water	60 ounces

To this add the hardening solution, made as follows, the substances being dissolved in the order named in the formula:

Soda sulphite, crystals	1 ounce
Acetic acid, glacial	¼ ounce
Alum	1 ounce
Water	5 ounces

Lastly, a word requires to be said as to the exhaustion of the fixing bath when using it for bromide or gaslight prints. I know of no means of telling when the bath is losing its powers except putting into the bath a slip of ordinary undeveloped dry plate. The time which is required for the silver bromide to dissolve out from the emulsion is a useful practical test of the degree to which the bath has become exhausted. One may make a note of the time taken for the plate to become clear in the fresh bath, and when it is found that a similar strip of plate needs twice or thrice this time after the bath has been in use for prints, it is a good enough indication that on the score of permanency it is advisable to throw the fixer away and take fresh into use.
—*British Journal of Photography.*

UNDEREXPOSURE

THE certainty of making a really good and successful result in any branch of photography can only be assured when absolutely correct technique is achieved; that is to say, when every single operation, right from the correct focusing of the image to the careful spotting of the final print, is carried out with precision.

Possibly *the* most vital point to attend to is the exposure; more especially in portrait work, too, is the question of correct exposure of paramount importance.

Of course, the modern dry plates possess such a great amount of "latitude" that it is seldom necessary in studio work to calculate exposures in fractions of seconds; but at the same time the best results are always those obtained when the exposure has been comparatively correct. Most professional workers, however, are called upon at times to photograph strange and unusual subjects which tax their capabilities of judgment, and also in the ordinary routine work it often happens that one has to deal with a restless baby in a group when, just as luck will have it, the light is poor.

Or, again, the progressive worker will probably aim at some very much controlled and effective lighting which necessitates that the area of light must be cut down considerably and consequently the exposure correspondingly lengthened, which at times will result in the worker underexposing (perhaps knowingly). An underexposed portrait negative is one of the most difficult things that an inexperienced developer can possibly have to deal with, as unless the development is conducted with great care the result will be a negative of unprintable hardness.

It is a strange fact that very few of my professional acquaintances ever give a serious trial to any of the modern patent developing solutions which appear on the market from time to time. If they did they would find that each of these possesses some particular merit of its own worth making a note of.

How many professional darkrooms can you go in, for instance, and find a bottle of rodinal, certinal, azol, or such like patents upon the shelf ready for use in any particular case?

Now, these patent developers are manufactured I presume primarily for the benefit and use of amateurs, and as the average amateur has none too much knowledge of the various operations he conducts, it is to the makers' advantage to produce a solution which is to all intents and purposes "fool-proof." That is to say, a solution which is simple to use and which will without any great skill produce nine times out of ten the best results the plate was capable of.

But still the average professional sticks to good old pyro as his developer, and I think I may safely estimate that 75 per cent. of professionals use a pyro-soda formula exclusively. I have no personal fault to find with pyro-soda, which certainly is as good a general all-around solution as can be wished for, and which, in capable hands, is able to produce practically any desired type of negative. But it is the capable hands more than the pyro to whom the credit is due. The only fault with a normal pyro-soda solution is that if the negative is at all inclined to underexposure an inexperienced assistant will try to force details out of the shadows, which will result in clogging up the highlights or ruining the half-tones.

Forcing won't do with pyro; it must be gently coaxed. Forcing will inevitably result in the fatal hardness, because all the time the shadow details are coming out, apparently nicely, the more exposed parts are steadily gaining density.

If development is started with a normal two-solution, say one part pyro to one part soda, and then the image appears to be underexposed, the best plan is to quickly pour back the developer into the measure and fill the dish with enough pure water to cover the plates and leave them soaking like this for twenty minutes or so, when it will be found that the shadow details have all gained density well, but probably the negative as a whole seems thin. The application of a little normal solution will soon build it up to correct density.

It is in this searching for detail that the modern developers have the advantage, as with them the whole image appears very quickly, the shadows developing at the same time as the high-lights and the density gradually being obtained by prolonged development, whereas pyro-soda acts upon the high-lights first and the shadows later on.

One of the most useful tips to avoid great contrasts is to add a good quantity of water to the solution to start with, and it is a usual practice when dealing with known underexposure to take one part pyro, one part soda, and six or eight parts water. By this method contrasts are avoided, but it has the disadvantage of requiring a long time to act.

I will now again presume that the majority of professionals use amidol as the developer for their gaslight and bromide printing, and as this is known not to keep in solution, it is, I think, generally thrown away after use. In cases of underexposure amidol is of great assistance for plates.

Personally, I pour the old amidol solution into a stock bottle which is kept for this purpose in the dark-room, and when a negative shows signs of underexposure a few drops of this old amidol is added to the pyro-soda. This will cause the plate almost immediately to veil over, as if it was fogged, but when development is finally complete the result will be a negative free from fog and all possible shadow detail will be developed.

In extreme cases it is advisable, if underexposure is anticipated, to commence development with normal pyro-soda diluted with about twice its bulk of water, to which is added about one-half a dram of old stock amidol. The results obtained by this method are probably no better than if normal rodinal or such like solutions were used; but, as I have said, these patent solutions are so seldom stocked that it is a tip which I trust will be useful to many workers.

COPYING ENGRAVINGS AND OIL PAINTINGS

THE copying of engravings, etchings, etc., is a simple operation if certain conditions are observed. The engraving ought to be clean—and by clean I mean not only freedom from dirt or stain, but possession of a clearness of the white portion of the picture; in other words, the paper itself. Mere soiling or dirt marks may be removed with stale bread crumbs, but the bread should absolutely have no grease in its constitution.

But if the engraving has become yellow with age, as somtimes happens, or has rusty-like patches on its surface, I have found the following method to work admirably, and as I have applied it to pictures which after the lapse of a year show no signs of having been injured, I think it may be used with safety on valuable subjects.

The engraving is soaked for a few minutes in a solution of carbonate of potash (one ounce to about a pint of water), and then, without washing, transferred to a dish containing a 3 per cent. solution of hydrogen peroxide. All traces of the age mark or stain will disappear in a few minutes, and the engraving has the appearance of a new print; a good washing in clear water follows.

Having a clear print free from the yellow marks, which if even faint would be intensified by photographing, the next thing is to get the print in proper position

This might seem easy enough, but unless special arrangements are at hand much vexation will be occasioned the novice to get the copy exactly parallel with the camera. The best way and the shortest way is to get an upright piece of board and to fit it at right angles to the end of a longer board which is intended to carry the camera. Side pieces might be attached to this long board so as to keep the camera in track when sliding it along to get the focus; and just here let me say, never copy with any other kind of camera than a back-focus one unless you are prepared for much weariness of the flesh and vexation of spirit. With a front-focus camera you will find it very troublesome to secure the required dimensions and sharpness of image.

The board which carries the engraving should be adjusted to slide up and down so as to get the centre of your picture opposite the centre of the lens, otherwise there would be irregularity in the rectangle.

When the engraving is bound up in a book, it is more difficult to get it flat. Rest the part of the open book containing the engraving against the upright board and the other portion allow to lie upon the horizontal part of the copying stand. A plate of glass of the clearest kind is placed against the page to be copied and held firmly against it by cords passed over strips of wood. A dark cloth is placed over the horizontal part of the book and also one in front of the camera with a hole cut in it for the lens to work through. These cloths will generally cut off reflections in the glass, but reflections should be carefully looked after.

In copying oil paintings in the photographic studio, more trouble is experienced in setting up the painting than with an engraving, both in getting it centred and in overcoming reflections. A painter's easel is most serviceable for securing position, but the illumination may cause some trouble. If the operator examines the painting set up as he would a person to be photographed; that is, illuminated at an angle of say 45 degrees, he will notice patches of white light moving over the surface of the painting; these change with changes of his point of view and are occasioned by reflections from objects about the room. If these reflections are suffered to remain, of course they will copy, and even more emphatically than the picture itself; and the photographer must get rid of them before exposure. Remove all objects that are likely to reflect themselves; but there are things which can not be so summarily dismissed, such as the walls of the studio or the skylight

itself, and so one is obliged to alter the method of illumination.

Do the focusing with the blinds all drawn up, then shut off all the light except that which comes about two or three feet in advance of the picture. By manipulating the blinds it will be noticed that the glare of light gradually leaves the painting from bottom upward until it gets outside the frame. Of course this necessitates prolonged exposure; but as there is no danger of movement the time may even be reckoned by the hour instead of minutes, and sometimes very long exposure is necessary with the reds and yellows in paintings and with the necessity of employing orthochromatic plates.

If the painting is photographed in an ordinary room, the side light may be managed in the same way until the proper angle for avoiding reflection is secured.

If the canvas is covered with a film, and the film is only caused by dirt, a wet sponge will remove it; but if the surface is dull from age a little nut oil will brighten it up. Some use glycerine and water, but one is dubious what one should apply to a valuable oil painting.

Now, as regards the photographic negative. Of course orthochromatic plates ought to be used, and if blues and yellows are prevalent in the picture a screen should be used; but sometimes I have had excellent results with shorter exposures by dispensing with the screen and using light yellow tissue-paper pasted over the source of light. There are no commercial plates which give first-class results on pictures which contain reds and vermillions, crimsons, etc., but the red in the face of a potrait is mixed with yellow and some blue, and an ordinary orthochromatic plate without a screen will give good results. Plenty of time ought to be given to exposures, as this helps in itself to more equally render the colors. Where pure reds are present, one should make his own orthochromatic plate to get anything like true rendering of the color.

Line-engraving copying requires a plate and method of development which shall give a vigorous image with clear whites and well-defined blacks, that is, the lines must not be clogged up. So it is best to secure this quality by proper development and not by thin development and subsequent intensification, as the intensifying process is liable to clog up the lights. The most appropriate plate for line work, probably, is the collodion emulsion, which, if necessary, bears intensification better than gelatine bromide. But one can not readily have at hand collodion emulsion plates, and the best substitute will be found in the so-called process plate, which gives an intense image with clear glass and makes a most brilliant print. The developer best suited is pyro or hydroquinone and potash; without any sulphite of soda; of course it must be freshly made and a few drops of citric acid—10 per cent. solution—added to it. This gives much more intensity than can be had, even with prolonged development with the recently introduced developers. When sufficient intensity is attained remove the plate from the developer, and before washing it swab the entire surface over with a pellet of cotton dipped in the citric acid solution; then remove to water to which a small amount of citric acid is also added; then thoroughly wash under the tap before fixing in clear plain hypo. A beautiful clear negative will result, which will print quickly and brilliantly.

AIDS TO PHOTOGRAPHY: THE MERCURY VAPOR LIGHT

PHOTOGRAPHY is very truly a child of light; without light it could not exist. When Draper made his first portrait in 1839, an exposure of twenty minutes in the open air under a bright sun was needed. Constant improvements in the manufacture of sensitized plates and lenses reduced the exposure to a fraction of a second.

For a while it seemed as if perfection had been attained. For many years daylight was a good and efficient helpmate of the photographer, but he soon began to chafe under its limitations. There were too many dark days, too many short days, and these unfortunately came around the busiest season of the hear—just when the photographer could make good use of a day almost twenty-four hours long. Old Sol cannot be persuaded to work overtime, he gets up and lies down on a fixed and unchangeable schedule, and we are not always sure of him even in his working hours—he sometimes shirks and hides his face behind a cloud.

One of the most important discoveries in photography since the dry plate is, perhaps, the mercury vapor lamp invented and perfected by Peter Cooper Hewitt, manufactured and marketed by the Cooper Hewitt Electric Co., of Hoboken, N. J. This lamp offers a perfect substitute for daylight for every photographic purpose. This is a strong statement, but it is being demonstrated in up-to-date studios and photographic workshops throughout the country.

With the aid of this lamp in skylight form, the photographer can produce work in a ground-floor studio just as readily and quite as satisfactorily as on the top floor of a four-story building. Stair climbing is eliminated and the photographer is not restricted in his choice of a building by the presence or absence of an "unobstructed north light." Appointments can be made to suit the sitter's convenience regardless of weather conditions, and during the busy season good business need never be turned away because the light is too poor.

In the printing and work rooms a light of unvarying quality and quantity is much more desirable than fitful, uncertain daylight, and lamps in various forms are most efficient substitutes for daylight for printing and enlarging. Work can be turned out much more uniformly and, what is of equal importance, prints can be delivered as promised. Failure to deliver the finished pictures to a customer at the time promised hurts the photographic business very considerably and anything that will help the photographer to keep his word is worth adopting.

Concerning the actual working under the light, Felix Raymer, working with it for the first time, remarks:

"In working the Cooper Hewitt light, it is necessary to do so as though it were nothing more than a small skylight, and in fact it resembles one very much in its construction, the main difference being that it is so small in size that one would naturally think it would require longer exposure than our 'old-time' skylight which had covered many square feet of light space. This is just where we all make a mistake in working it for the first time. As a matter of fact, it requires *as little or less exposure than any skylight* I ever stood under. There is something remarkable about the actinic value of the light. One particular feature I noticed in its use, and that

is, in place of the peculiar tone given to the face under it confusing the operator, it makes his judgment of tone value much better and he is in a position to secure more what he actually sees under the light than ever before. The high lights are brought up strong and clear cut, while the middle tints and lower tones fall into place as no daylight will show.

"Be careful as to exposure. The light is a faster light than any operator will think on his first trial."

TRADE NOTES

We note with interest the organization of the Photo-Machine Company, with strong and prominent stockholders and directors, which has acquired the patents, plant, and good will of the Auto-Foto Company.

The latter brought out last spring, after several years experimental work, and actually commenced to market an automatic photographing machine of great merit; but it died almost before it was born, a victim to that commonest malady of infant enterprises, lack of capital wherewith to do business. Several months were required to work slowly through the courts to a bankruptcy sale, resulting in the present organization accomplished by an entirely new set of people.

In spite of financial troubles, a few of these "Auto-Photo" machines ("Auto-Foto," the former proprietors spelled the name) were operated more or less continuously last summer and autumn at Atlantic City, Ocean Grove, Norumbega Park, Natasket, and at a few points in New York, Boston, and Philadelphia. They took from 75,000 to 100,000 pictures and proved photographically most successful. Their trade motto, "Your picture for a dime in one minute's time," was entirely vindicated despite the fact that, like all new machines, they developed unimportant mechanical defects which caused profanity at times. At Atlantic City four machines took from 400 to 650 pictures per day. At Ocean Grove two machines on an August excursion day took 132 festive "Elks" in one hour and fifteen minutes. At the "Fourteenth Street Store," New York, a machine on the sixth floor took 50 to 70 pictures per day during the dullest days of midsummer. Certainly the above sounds like good business.

The new proprietors are profiting by the misfortunes and experience of their predecessors. They inform us that they started with $180,000 cash in bank, estimating that the working capital required will not exceed $130,000, so there will be $50,000 to the good for contingencies. They are now engaged in correcting the mechanical defects shown by the machines worked last year. Their manufacturing is done by the great General Electric Company, which is of itself a guarantee of workmanship and quality, every machine bearing the manufacturer's plate. These corrected machines will be tried out in actual service in New York during February and March, and the company then expects to be ready to take orders for delivery of machines and the special photographic plates used therein.

"Photograph yourself! A dime—a minute—a picture" will be the trade slogan, and certainly it is an attractive one. This latest novelty, this "dernier cri" of the great photographic industry, assuredly has a wonderful commercial future, if handled as liberally as its new owners forecast. We expect next month to publish the Company's advertisement for sole territorial agencies.

The photographer of the present day, whose experience does not date back to the days of albumen paper, has at least heard of "good old albumen" and many now use the *new* albumen paper—Zelta—which has all the good points of albumen with the many objectionable features omitted.

Zelta is a ready-sensitized albumen paper of exceptionally good keeping quality. It is made in three distinct matte surfaces—gross-grain, semi-rough, and smooth-laid—each surface having a velvety texture that is impossible of description. The two colors of stock used are white and chamois.

But of greatest importance in this new paper is the wonderful range of tones that may be so easily secured in a single toning bath. All the objections to a printing-out paper that may be brought forth are quickly overcome by the quality of the finished Zelta print, and each photographer may find a tone to his particular liking and which will best express his individuality. Moreover, he can repeatedly secure the same tone or vary it at will.

Zelta will appeal to your best and most appreciative customers.

System does not mean red tape. The simplest and most efficient method of accurately taking care of your business is the best definition of system, and in the photograph business the best example of such a method is the Eastman Studio Register System.

A full account of every transaction with

your customer is kept by card index, and when the transaction is finished the card is filed in a transfer box, where it remains as a permanent register of your negatives and record of your customers. The same card is used for duplicate orders, it being transferred to the desk box when duplicate order is taken. Ask your dealer to show you this complete and inexpensive Studio Register System.

TIME and temperature is everything in the printing room, especially in the winter time, when solutions are usually cold and the tendency is to overtime in order to get quick development. No printing room is complete without an accurate thermometer and timer, and there is no necessity of being without them. The large and plainly marked dial of the Eastman Timer is easily read in subdued light. The hand traverses the dial in one minute. Runs thirty hours. Price, $2.00. The Eastman Thermometer is suitable for either plate tanks or developing trays. The figures and degree marks are easily read. Inexpensive but accurate. Price, fifty cents.

THE BERLIN ANILINE WORKS have just issued a book entitled *The Agfa Way* that is of interest and profit to every photographer. A copy can be had by writing and asking for Booklet No. 5, addressing THE BERLIN ANILINE WORKS, 213 Water Street, New York.

PHOTOGRAPHERS in search of an unusually good plate and developer combination cannot go wrong in the choice of Imperial Special Sensitive Plates with metol for a developer. Imperial plates are noted for their speed, which combined with their enormous latitude and fine grain emulsion produce splendid results during the dark winter days. Hauff Metol is a standard article that has given satisfaction for many years and can be thoroughly relied upon. Any further information concerning Imperial Plates or Hauff Metol can be had of G. GENNERT, 24 E. Thirteenth Street, New York, or 320 S. Wabash Avenue, Chicago, Illinois.

OWING to the continued increase in business the NORTHERN PHOTO SUPPLY CO., of Minneapolis, Minn., one of the largest supply houses in the country, has found it necessary to move into new and considerably larger quarters. They have secured a long lease on a building at the corner of Ninth Street and Nicollet Avenue and will be in a better position than ever to handle their rapidly growing business.

PHOTOGRAPHERS throughout Pennsylvania, Southern New Jersey, Delaware, or anywhere within reach of Philadelphia, should make a note of the fact that the EASTMAN PROFESSIONAL SCHOOL will be in session at Horticultural Hall, Philadelphia on February 11, 12, and 13, and offers a splendid opportunity to become posted in the latest and best methods of professional practice.

THE BAUSCH & LOMB CO. have issued in booklet form some *Useful Tables for the Photographer.* It gathers together in convenient form much useful information that the photographer has occasion to refer to frequently. A copy can be had on request. THE BAUSCH & LOMB OPTICAL CO., Rochester, N. Y.

IT is poor economy to use a cheap and doubtful mounting paste. While it may have all the appearance of a pure paste, it is bound sooner or later to demonstrate its poor qualities in the form of spots and markings on the mounted print. It is very poor advertising for the photographer whose name appears on the print. The only safe and sure way is to use a guaranteed pure mountant. Day's White Paste is pure all through and can be relied upon not to spot or discolor. It costs no more than the impure kind and should always be used as a matter of self-protection. A sample can be obtained by writing the DIAMOND PASTE CO., 70 Hamilton Street, Albany, N. Y.

IN an article elsewhere in this issue on "Photographic Reagents" it will be noticed that considerable stress is laid on the necessity of pure chemicals in all photographic processes. With so many well-known brands of chemicals of guaranteed purity the photographer has no excuse, other than that of doubtful economy, for the use of poor and impure chemicals. The name of the Eastman Kodak Co., the Berlin Aniline Works, Schering & Glatz, Charles Cooper & Co., or G. Gennert, is sufficient guarantee of the purity of chemicals sold under their name and trademark. Guaranteed chemicals are to be had of all first-class photographic supply houses and the photographer should see that he gets them.

THE BERLIN ANILINE WORKS announce that they have now in stock autochrome screens adjusted to the celebrated "Agfa" Blitzlicht Powder. There are seven sizes, ranging from one and a quarter inches square at $1.00 to five by seven inches at $5.00.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
T. DIXON TENNANT, Editor

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
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EDITORS' TABLE

OUR deepest sympathy goes out to MR. E. B. CORE on the untimely and sudden death of his only son, Fred Core, who passed away after a few days' sickness on January 14. For the past two years father and son had worked together in the Fifth Avenue studio, and there was an unusually strong companionship between them, which makes the father's loss a double one. E. B. Core is one of the best-known and most-lovable men in the profession and he has the sincere and heartfelt sympathy of photographers everywhere.

WE had the pleasure, a few nights ago, of attending an orchestral concert given by the Hoadley Musical Society of Brooklyn. This is the orchestra of sixty pieces that will be the star feature of the Sixth Annual Ball of the Professional Photographers' Club of New York, to be held at the Hotel Majestic on the evening of February 12, and to which the members of the Professional Photographers' Society of New York, who will be in New York for their eighth annual convention, are cordially invited. The ball and concert promises to be the biggest social event of the year and is something not to be missed by visiting photographers.

THE specialist can go a little too far in his specializing and overdo the thing. We heard recently of a lady who had a particular Paris gown in which she wished to be photographed. She went to a Fifth Avenue studio with a reputation for making fashion-plate photography. The first thing the operator asked was how many dresses she had brought. When he learned that she had only brought one, he none too politely told her that he could not be expected to do much with one gown. She was ordered to pose herself. Not being used to posing, the operator had to assist, not, however, without giving her to understand that his subjects usually made their own poses, so that altogether the lady had a most uncomfortable quarter of an hour under the light. To "add insult to injury," when the receptionist came to get the address, which was given as Flatbush, a section of New York containing the homes of many people of wealth and refinement, but not ultra-fashionable, she asked superciliously, Is that Long Island or New Jersey? Needless to say, the Fifth Avenue studio lost a good order, which was later placed with a studio that was not above using tact and common courtesy.

WE recently received a catalogue of what was called studio furniture, and we have been wondering ever since why it was called studio furniture—possibly because it is the kind of furniture that is only to be found in photographic studios. Of the pieces illustrated in the catalogue there was not a chair that approached in design or comfort the chairs to be found in even the most modest home. They were all oak, finished in photo-brown, and most of them were "elaborately carved," without a single line or curve to suggest either dignity or beauty in the whole lot. Why should people who are in the habit of sitting in comfortable, well-designed chairs, be asked to try and look natural in a chair that is loud enough to talk and as uncomfortable as it could possibly be made? The furniture stores of the better class show a large variety of odd chairs from which practical and well-designed pieces for studio use could be chosen.

PRESIDENT-ELECT WILSON

By F. GUTEKUNST
Philadelphia, Pa.

WILSON'S PHOTOGRAPHIC MAGAZINE

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WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. L FEBRUARY, 1913 No. 674

SUCCESS IN BUSINESS

THE business of a photographer, like that of any other professional man, will be in direct ratio to his capacity, for adapting himself to the commercial methods and practices of the times. The professional element in his work has rather made against him in this. Like the druggist, with his professionalism, he has been inclined to overrate its value, take a stand upon a slightly higher plane than the purely commercial one, and been handicapped commercially in consequence. Marked professional capacity, of course, deserves special pay and the higher stand. But it is far safer for a man to assume the possession of the average merit attainable by an average man and thrust himslef boldy into the commercial ranks for the certain reward he will find in them if he will but work wisely as well as diligently.

What form and complexion the wisdom takes can be best judged by studying the chief causes of the success of well-known business men who have come to the front. There is not one who has not found advertising the main central supporting pillar of the superstructure of his fortunes and advertising upon the most liberal possible scale that his returns would allow of. "But advertising is expensive work." So it is, yet not so expensive as when the men in question boldly risked their all in support of their faith in its value—and were amply justified by results. A man may have to spend $100 to make a profit of $50, but it is a wise expenditure, for the $50 would not otherwise be gained.

Photographers, upon the whole, advertise very little. Where they do, they follow in the ordinary grooves so littered with newspapers and handbills containing the particulars of the wares of their fellow tradesmen that the description of their own is heedlessly passed over by a tired and satiated public. At the same time, the photographer has in his possession the very best means of gaining, and that with the greatest ease, the admittedly strongest, most profitable, and so naturally the most diligently sought-for feature in advertising, viz., novelty. Take a case or two in illustration. Every town has some characteristic something in the way of a bridge, a river, a church, a pier, a promenade. A photograph of it should be taken and reproduced in a small block

Prints from this upon one side of an artistic card, the other being devoted to a statement of work and prices, would form a very effective advertisement. It would not be tossed aside like an ordinary handbill but kept with more or less care. Snapshots of interesting local events suggest themselves as still more interesting material for such treatment.

Another marked and essential feature of successful advertising is continuity. Spasmodic efforts, however good in themselves, lose force from their occasional character. With a little thinking a photographer could express pictorially an idea requiring several pictures—the park, pier, or river in spring, summer, autumn, and winter; the chief open-air functions of the town or city's year, and so on. There are a hundred different ways in which a sharp and thoughtful man can elaborate novelties either for distribution or exhibition in his window and showcases. They would serve to keep his name before a pleased public, and he would not form an exception to the rule of the result, meaning money gain. It certainly means trouble and work, but he who thinks that success, even with the very highest capacity, in business or anything else is to be gained without these, had better, perhaps, begin calculating what sized wing would lift him; he is fitted for higher than earthly spheres.

In the references to the value of persistent and novel advertising, and in adapting prices to the demands of the times, we do not by any means assume to have exhausted the elements of success; but if these two most important be gone in for as a start, it will easily and naturally follow. He cannot be progressive in one direction only. The show cases will be brightened up and rearranged, the studio repainted, old backgrounds discarded and replaced by something fresher looking and more novel, new processes and new idea generally adopted wherever possible.

If so, it is quite certain that work will tumble in more plentifully, and although the profits on the individual card may be smaller, in gross at the end of the year there will be a pleasing increase, but always in strict proportion to the extent of energy and progressiveness displayed. When profits increase—"Ah, well, there are many worse businesses after all than a photographer's."

THE "FILMY" STYLE OF PORTRAIT

BY PERCY R. SALMON, F.R.P.S.

THE filmy style of portrait is not a new one by any means, but at no time in the history of photography has it been as popular as it is at present. It has been looked upon by many workers as being suitable only for actresses, as actresses as a body just adopted it, or photographers did for them; but the style has become popular—in England at any rate—among other classes of sitters, and it is not uncommon for society beauties, ladies of title, etc., to express a wish for flimsy or filmy drapery upon their heads or shoulders, or perhaps both. Mr. Elwin Neame has perhaps done as much as anyone to popularize this style of portrait.

and one frequently hears it referred to as the "Neamy" style.

The filmy method of drapery has its advantages and disadvantages. A point in favor of it is that it often enables a photographer to make a very pleasing portrait of a pretty sitter, inasmuch as no fashionable clothes are allowed to compete with the face. It is often a difficult matter to do justice to a pretty face when perhaps three-quarters or more of the plate are taken up by a gaudy and fashionable hat and dress. On the other hand, difficulties are met with in the correct lighting and rendering of flimsy drapery, the selection of suitable material, and the fact that the style does not suit every type of face.

Clothes have an effect upon the mind of the sitter as well as upon the artistic qualities of the photograph, as Dr. L. W. Flaccus, of New York, proved some years ago when taking a census of schoolgirls in that city. Filmy clothes—not necessarily muslin drapery, but filmy clothes as a whole—impart a distinctly pleasurable feeling tone to the wearers, many of whom experience from them feelings of gracefulness or light-heartedness. A girl whenever she dons a light and airy filmy garment wants to dance or go off holiday-making. Gauzy stuffs especially were discovered by the psychologist to impart these pleasant mental effects, effects which are invariably recorded upon the negative. The effect is not due alone to their lightness in weight and to their freeing the body or head from heavy pressure. A filmy dress is associated in the mind of the wearer with, say, a ball or some gay social function, just as slipping on a smoking-jacket or indeed an old and worn jacket is associated with relaxation by the sterner sex. Similarly, donning a stiff shirt-front and evening dress suggests to a man a certain formal, correct sort of behavior.

Flimsy drapery appears to suit all types of beauty, the standard of which is ever changing. Standards of beauty vary as much as Fashion herself, the most fanciful, erratic, and incomprehensible of queens. One year it is the "Gibson girl," another the "Cleo Merode," then the "Ivy Close," and so on, but the flimsy drapery suits them all, serving as it does as a frame to set it off, and not in competition as fashionable clothes do. In some pictures one is led to wonder whether the photograph was taken to show the hat or the face, because both attract equal attention, but with flimsy drapery properly and suitably draped, attention should be drawn to the face and the face only.

There are many opinions among those who profess to study the theory of the subject, as to what is the most suitable material and color to use, but practical workers do not appear to bother their heads so much. I once accepted an invitation to inspect Elwin Neame's "drapery cupboard," and I found therein all kinds of muslins and similar materials of all colors, and he apparently selects that color and substance (mesh) which will give him the effect desired, just as any other photographer would do. There is no magic about his drapery; where he scores is in having wonderful taste and skill for arranging it, both naturally and by means of pins. One of his models once told me that it always took her about half an hour to get all the pins out again.

Fine chiffon is unquestionably the best material for draping head and shoulders, and cheese-cloth for the figure. A much cheaper material is book muslin, and cheaper still a a material called tarlatan, the latter being used very largely for the dresses

worn by ballet girls of the *premieur danseuse* or columbine type. The material, however, is heavily charged with glue, and needs several soakings in very hot water in order to take out the stiffening, which is so necessary in dancer's dresses, but not advisable when it is used as photographic drapery. In most qualities of book muslin, as in tarlatan, the mesh is too large, and shows up badly and something like wire netting when sharply focused, whereas in fine muslin or chiffon the mesh is so small as to be unseen when properly draped on the bust, focussed, and lighted.

There appears to be a feeling in favor of white chiffons or other materials for drapery, but new white materials are not advisable unless the photographer is very skilful at lighting. If white materials are used they should not be white, if one may so put it. With careless lighting new white chiffon appears too white in the picture, and competes with the flesh. White materials should be allowed to become dingy after washing well at first and rough drying, or they may be tinted slightly by steeping in tea or coffee, or even a pale yellow dye. The piece of chiffon I find of the greatest service for head and bust work measures eight yards in length; it was originally of a pale yellow color, but before using it was washed well, tied up into a ball very roughly, and allowed to dry slowly; it was then hung in the open air for about a week, where it got all the sun, wind, and rain, and other mixtures of English weather, and now after throwing about for a year or so, and being used some hundreds of times, it is in an ideal state for photography. Some of my models have suggested that a wash would make it look more presentable, and some day it may be washed. One other drawback to new chiffon is that models often take a fancy to it and it is a hard matter to refuse a really good model a few yards of material.

Some photographers favor chiffon and muslin of very pronounced colors, and some very effective results may be obtained by draping one color under another. Happily, in these days of isochromatic plates and color screens there is not the necessity to worry so much about colored garments as there used to be in the early days of dry plates. But there is at most times a difficulty of differentiating between the flesh and the drapery. Count de Osseville, a well-known Continental worker, advocates a pale blue screen in some cases, but I prefer to get effects by other means. Writing on the subject some time ago he said that where one has to reproduce a new and brilliantly white robe, and the sitter is a brunette, the best means to obtain a good relation of tone between the flesh and the drapery or costume is to place a pale blue screen before the lens.

TIME-SAVING DODGES

BY F. C. LAMBERT, B.A.

I SHALL assume that we are all agreed as to the desirability of saving time. Saving 1 minute per hour is 10 minutes per 10 hours, or 1 hour per 6 days, or 2 full (24 hour) days per 48-week year, or a month in 15 years.

The old story, "a pin a day, a groat a year!"

I take it that any new dodge or contrivance which enables us to do our work as well as before and in less time is worth considering. Also, if the new method does the work *better* in the *same time* as before it also is a saver of quality if not of quantity, and so is worth consideration.

Several friends and old hands in photography have recently visited my workroom and noticed little "oddments" which were new to them. They have, with different words, voiced one sentiment, to the effect that if I could make these trifles known they doubtless would be appreciated by those workers who want to make the best use of their time and materials. Hence my excuse or apology for saying something about what to many may be "chestnuts."

Drying Plates

Damp and cold weather often means slow drying of plates. True, we can use formalin and then artificial heat, but I fancy most readers of experience will agree in preferring spontaneous drying when this is not inconveniently slow.

Most commercially supplied drying racks made with a view to economy of space and material (chiefly the latter, I suspect) are so constructed that there is not nearly enough air space between two neighboring plates.

Fig. 1* shows a home-made rack put together in a few minutes with the aid of a saw, file, half a dozen screws, four bits of rough wood, and two bits of window-blind rod; total cost less than five cents. The two crossed feet at each end are pivoted on one long screw, so that the thing shuts up flat when not in use and hangs on a long nail in the wall. The groves, cut with a file, are made of an open V-shaped and not the usual machine-planed U-shape. The V-shape lets the water drain away quicker down to the lowest point of the plate. The grooves are spaced so as to allow a liberal inch between any two plates.

Plates will dry in half the time if the *backs* of the glasses are rubbed dry. The film sides should also be dried by quick, light pressure for just a second or two between fluffless blotting paper. If you turn out a lot of negatives, just fix up (on brackets) a six-inch wide shelf, about two feet or so from the ceiling of the room. This is by far the warmest part of the room, and here half a dozen or more such drying racks are safe and out of the way.

Fig. 2 shows a second form of plate-rack constructed out of three pieces of round blind-rod and two flat pieces of wood. Two of the three round rods are notched in the way that will be better seen in the diagram than described by words. One edge of a plate rests on these step-notches, while the opposite side rests against the round rods. The special object of this arrangement is to dry plates *film-side* downward, so as to minimize the risk of dust-particles settling on them. This rack is particularly useful in connection with autochrome and other color-screen plates, lantern slides, and also in the case of cold varnishing.

Copying

A good deal of time may be spent in trying to get the sharpest possible focus when copying an old and faded print, and this especially when the original does not show any very sharp detail features. The easiest thing to use when it is a question of sharpest focus is a bit of type-printed matter,

*For illustrations see pp. 68 and 69.

for we easily get the thick parts of the letters in focus, and then give the final touch for the finest part of a letter or the tail of a comma, etc.

Fig. 3 shows how a long, narrow scrap of newspaper is tucked behind a very old and much faded C. D. V., and held at the other end by a thumb-tack or drawing-pin. In the original the eyes were all but invisible. An ordinary slow plate, but very slightly sensitive to yellow (red and green) was used. (N. B.—After focussing do not forget to remove the strip of paper before making the exposure.)

Exposures When Copying

It may not be inopportune to remind the occasional worker that copying work falls roughly into two classes, requiring different treatment, viz. (*A*) contrast, and (*B*) gradation.

A. When copying black and white originals, *e. g.*, maps, plans, diagrams, engravings, etchings, etc., we have white paper and black lines. Our aim is a clean, fogless, bright, contrasting, quick-printing negative. To secure this the exposure must be only just sufficient to give the white paper part strong and dense in the negative, so as to *print white* (this is a bit Dublinesque), but yet not so long as to get appreciable deposit on the negative from the light reflected by the black ink. (The blackest things we know reflect a little light; black ink on paper reflects about 5 per cent. of the incident light.) Our aim is to get the ink lines as near clear glass as possible, so as to print black.

B. But when copying halftone original, in dot or otherwise (*e. g.*, silver print, platinum, carbon, bromide, halftone (dot) into prints, paintings, etc.) our object is to get a negative showing gradation and detail in all parts—from the highest lights to the deepest shadows. Therefore in this case we give as generous exposure as we can for the dark, provided it is not so much that we get overexposure and loss of gradation in the highlights. Thus it will be seen that in Class A our aim is the ***minimum*** practical exposure, while in B our aim is the ***maximum*** safe and practical exposure. The worker who is continuously engaged in copying acquires a kind of exposure instinct, but the occasional copyist is very likely to waste time and plates unless he is wise enough to keep a note-book record of previous work.

Lighting the Copy

1. Perhaps the best light of all for copying is outdoor diffused daylight; *i. e.*, fine weather and the sun behind a white, thin cloud.

2. A friend tells me that he does all his copying at night, using two incandescent gas mantles, one on each side of the camera.

3. Convenience has led me to use a work table near a fair-sized side window, and to use a large white card reflector opposite the window and fairly close up to the copy. By tilting the reflector at the right angle and avoiding strong direct light I can get rid of graininess.

Where's that . . . Cork?

The average photographer is apt to degenerate into poetry when a cork jumps out of his fingers and deliberately hides itself. The time, the matches, and the poetry one wastes over that cork! Why not chain it up like any other likely-to-wander miscreant? Fig. 4 shows how this can be done in next to no time. Just borrow a crochet needle, pass this through the upper part of the cork, catch a piece of thin, hard string in the hook, and drag

it through the cork; tie this end over the crown of the cork; tie the other end of the string round the bottle neck. (N. B.—So adjust the length of the string that the cork cannot touch the shelf or table on which the bottle may be resting. There are two reasons for this: First, if it touch the table it may pick up chemical "dirt" and contaminate the contents of the bottle. Further, the cork may, after the manner of evil-minded corks, go and put its silly self under the bottle and lead to an upset and more poetry.) In the case of the middle bottle we have an example of a rubber cork with a hard (vulcanite-like) flat top such as we all know in connection with the bottles in which Rodinal is sold. We file a couple of fairly deep notches at opposite points of the hard flat top. Then we "spin" two bits of hard string together and knot them near each end. One pair of free ends are tied around the bottle neck, the other pair—spread out—go into the above-named file nicks round the rubber cork and are tied close up to the flat top.

The third bottle on our left is the familiar vehicle in which comes to us the innumerable German manufactured developing agents and other things. As a rule, these are good corks which have been waxed, but they are awkward things to get out quickly when one wants small quantities of this or that of their contents. First, I take out the cork as carefully as I can with a corkscrew. When replaced it is wrapped in a double thickness of waxed tissue-paper—as sent out in every packet of bromide paper, etc.—and the paper twisted up so as to constitute a kind of handle whereby this cork can be removed quite easily at any time. The waxed paper makes a good air- and dump-tight fit—a matter of first importance with such hygroscopic things as ammonium persulphate, etc. It is a mistake to try to dig these corks out with a knife-point. This is not unlikely to smash the knife. The point of a pair of scissors, another favorite instrument, is all but certain to smash the cork; and good, sound, waxed corks are worth a little care, as I will show presently.

Waxed Paper and Hygroscopic Substances

Who of us has not felt inclined to use "language" on finding the stopper of a bottle obstinately refusing to budge? It is a "stopper" indeed, then. This is particularly likely to happen with bottles containing caustic potash, caustic soda, and other hygroscopic substances. To replace the stopper by a cork is very seldom satisfactory, as a really air-tight cork is not easy to find.

Fig. 5. Here again comes in the use of a bit of waxed tissue paper placed round the stopper and gently shaped round it, avoiding tears. I now dip the tip of my little finger in a pomatum pot containing vaselin, and rub this round the inside of the neck of the bottle. The paper-covered stopper is rotated a few times in the bottle neck to shape the paper to a good fit, and also to distribute the vaseline evenly. This makes an air-tight joint which never sticks. I have used this tip for some years now, and have not wasted a bit of caustic alkali. The stopper works as "sweet as silk." (N. B.—Always take it out and replace it with a bit of a twist. The same bit of paper will then last for "ages.") In the middle of Fig. 5 is a curious looking thing. It is the sad remains of a bottle that had the neck smashed by accident. I then cut off the upper part level. It now holds cotton wool.

Cotton Wool

Cotton wool has a twofold use in the dark-room. Every negative when leaving the washing tank should be gently wiped over on the film side with a wet swab of cotton wool. Try this and you will be surprised to find what a lot of "dirt" seems to come from "nowhere" on to this bit of wool. This wiping treatment is quite essential with all backed plates.

Another use for cotton wool is in quickly filtering fluids. Photographers do not use a filter one-half as often as they ought to do. To run an ounce or two of developer through a wool filter does not take more than one minute, and likely enough this will more than repay by saving spots and retouching trouble. *When in doubt, filter your solution.* There is a right and wrong way to use a wool filter. It is as well to cut off the stem of the funnel fairly short and grind it to an acute angle (see Fig. 5). I prefer to set the funnel in a tumbler or squat-shaped graduate, etc., rather than the usual "topply" funnel stand. Do *not* put a bit of dry wool in the funnel and then pour in your solution, for if you do the bit of wool will float on the fluid and that will run through unfiltered with a splash, making air-bubbles. On the contrary, take a finger-and-thumb pinch of wool, drop it in the funnel, let a few drops of water run in just to wet the funnel and wool, and so hold it down to the glass. Then a *little* more water will wet the wool and carry it partly into the throat of the funnel—not too tight, not too loose—with a bit of the wool probably projecting beyond the cut tube (see Fig. 5). This projecting bit acts like a conducting rod or spout, and leads the fluid in a quiet bubble-free stream.

Cutting a Bottle

Now to go back to the broken bottle, which we propose to cut straight across. Take a three-cornered file and draw it across the glass, aiming to make a minute horizontal nick when the bottle stands on the table, as shown in cut. This nick-cutting requires a quick, firm, sharply-drawn stroke of the file, guiding the file with the thumb nail of the left hand. Your first two or three file strokes probably will be fruitless squirms, but try again, when presently you will both hear and feel that the file has cut the skin of the glass. That is all that is wanted. Now take a stout knitting-needle, pass one end an inch into a bit of wood to form a handle. Heat the other end—an inch or so—red hot in the fire or gas, and with a pair of pliers curve this end so that its curvature fits as near as may be to the curvature of the bottle. Round the bottle at about one-half inch distance make a row of dots with ink, level with the file cut. These are just eye-guides which you perhaps can dispense with if you have a good "straight eye" as it is called. Now heat the curved end of the needle, and when red hot lay it along the file cut and ink lines, holding it quite still, when presently you will hear a tiny crack. This you will see has gone through the thickness of the glass, starting at the file-nick and following the direction of the bent needle. Reheat the needle and lay on again at the end of the crack and along the adjacent ink spots, and so on, leading the crack right around the bottle. You will be able to pull the upper and lower portions of the bottle apart. Their edges will be dangerously sharp and require well rubbing, inside and out, with a whetstone, hard pebble, or fine round file. (A pebble from the seashore is best.) This

sounds rather a tedious and troublesome business, but it is not so at all. One or two bottles cut down in this way will be found most useful, *e. g.*, for holding funnels (as the tumbler here shown), for holding developer in a warm water bath, and half a dozen other purposes.

A yellow or orange hock bottle thus cut in half give us two useful emergency items. The sloping neck part can be used as a funnel in lieu of anything better. A night light put in the bottom of the other half serves as a safe changing light for ordinary plates. To form an inlet and outlet a piece of card should be cut of size just to fit the diameter of the bottle, and be about an inch wide. Air will go *in* on one side and heated combustion products come *out* of the other side of the card. A puff of tobacco smoke will show this inlet and outlet effect.

Freshly mixed solutions are, in the great majority of instances, preferable. This certainly is the case as regards developers.

For many years it has been my custom to *keep my pyro dry* and spoon it out as required. This sounds terribly troublesome, but as a matter of fact the great advantages of this plan in several ways far outweigh the trifling extra trouble of using a spoon and bottle. In Fig. 6 may be seen two bottles with their "hats" off and on. To our right we have a glass cap stopper—otherwise a carbonate of soda bottle, in which is seen a small bone spoon. In the left half the cap is removed and the spoon shown outside. The spoon is a penny bone mustard spoon with the business end filed down until it is a circle (thereabouts) of a shade over one-half an inch in diameter. This, as an average load or spoonful, takes up 2 grains of fluffy pyro. To get your "eye in" just take up ten of these spoonsful and weigh the lot. If your total is anywhere between 21 and 19 grains you may pass muster.

To work this system take ½ ounce soda carbonate (crystals) and ½ ounce soda sulphite (crystals) and dissolve in tepid water to make a total of 10 ounces. This keeps fairly well but not indefinitely. To prepare a developer take 1 spoonful of dry pyro (*i. e.*, 2 grains), throw this into a graduate, and fill up to 1 ounce with above carbonate-sulphite solution. In practice this is almost if not quite as rapid as measuring various quantities from two bottles of solutions.

Note that the hollow cap of the bottle allows us to keep a spoon with a convenient length of handle *inside* the bottle—*i. e.*, always there when wanted, and free from contamination by other chemicals. However well you may "preserve" your pyro in solution, it is bound to deteriorate in time. The older the solution, the more likely to give stains. Dry pyro is best, and there is no waste of material, etc., by this system. Every lot of developer is fresh.

On the left in each half of the print we see one of those very familiar, dark orange German bottles in which we get metol, amidol, and so forth. In the left half we see the cork of this bottle (which is a cork with boxwood top, standing on its head, if I may so express it). Into the cork is stuck a smaller edition of the pyro bottle bone spoon, filed down to a circular disk. Now this is my amidol bottle, which I greatly prefer to keep dry and dissolve as it is wanted. In this case again I want 2 grains as a spoonful. The diameter of this circular end is rather less than one-half an inch. As before one should get one's "eye in" by weighing ten spoonsful. For bromide and gaslight paper prints it will not be easy to get a simpler and better

formula than this: ½ ounce soda sulphite (crystals), water to make 10 ounces, 5 grains potassium bromide. To mix a developer, put one spoonful of dry amidol (2 grains) in a graduate and make up to 1 ounce with the above solution. This will require gentle stirring once or twice with a glass rod, before use, to dissolve the amidol. But with regard to the fluffy pyro, that dissolves almost instantly when the solution is poured on it.

By the way, if, when you run out of amidol, you ask your chemist for *diamidophenol*, you will get—I do not say amidol—but something which you can use in the way just described and it will give you results which I think you will find it very difficult indeed to tell from results obtained by amidol. But there is a difference in price. The longer named article is about one-third the price of amidol.

Graduates

Graduates are important articles in every photographer's dark-room. It is a time-saving convenience to be able to see the figures readily. In Fig. 7 we see three graduates of somewhat different forms and ways of making. Commencing with that on the left we have the plan of leaving the figures as clear glass with a ground-glass background. To make these figures take more strongly just take a finely pointed hard leadpencil and rub this all over the ground-glass part. This gives a very considerable and welcome difference of contrast. True this black lead gets rubbed off with constant handling, but is easily renewed. In the middle we have a tall, narrow form with clear-cut figures very difficult indeed to see in the dim light. Here again the H. H. pencil has been well rubbed into the cuts, making the difference which will easily be seen. Note that the foot of each of these two graduates has been painted with white bath enamel. This makes them far easier to find in the dimness of dark-room light. The heavy large foot of the middle form gives it a valuable degree of steadiness. I am grieved to find that this form is now difficult to find. (Possibly the makers thought they did not get broken sufficiently frequently to lead to live business.) This one has been in very frequent use for something like twenty years. The third one on the right has clear figures on a ground-glass background, pencil-rubbed. It is shown standing in a thick, heavy, earthenware saucer-like dish (once used as a kitchen soapdish, I fancy). Before the gas is turned down, I prepare my developer and put the graduate in this white dish. Now in the dimmest light it is quite easy to see this dish, and so to know exactly where to put one's hand on the graduate. This is always useful, but especially when dealing with panchromatic plates.

Sink Fitment

Over my sink is a tap. Onto its nozzle in a moment I can slip a 12-inch length of good black-rubber tubing, giving a supply of water without any splashing. This tube reaches down about three inches from a six-inch deep lead-lined sink. In Fig. 8, on the left, we see a cork, into which are fitted two short lengths of glass tubing, with their lower ends very slightly curved away from each other and also very slightly contracted. Two dishes are placed side by side on the sink. The cork is put into the lower end of the rubber tube on the tap, and now gives two somewhat diverging streams, easily directed into the two dishes, so that I can conduct washing

operations in the two dishes at the same time, *e. g.*, plates in one, prints in the other. In experimental work it is often necessary to work plates and prints separately.

Next to this is a similar cork with only one bit of glass tube with a more curved and slightly contracted end. This again is used to feed a single larger washing dish. One easily finds that with this tube near a corner of the dish and directed across the adjacent corner he gets a current which keeps a batch of prints slowly on the move without clinging to each other. It is a common error to use too great a force of water, which drives all the prints into a mass in the centre of the dish; only just enough to keep them moving very slowly works them the quickest.

Next to this is a longer glass tube with a curved and contracted end, used for the same purpose in connection with a trough or tank. The black mass at the end of this tube is "marine glue" (which when slightly warmed may be moulded to any shape with wet fingers). The glass tube is not quite large enough to fill the rubber tube, hence the coating of marine glue. On the right is a rose nozzle in brass with sundry bits of rubber and glass tubing. The open, large end of the tube slips onto the nozzle of the water tap and gives a spray covering a 10 by 8 in. plate on the sink.

Cleaning Tools

First let me say that now when I look at the print I find I have omitted one, and so may mention it at once. This is a bit of firewood, to the end of which is tied a piece of loofah, making a small drumstick-shaped contrivance. To clean a developing dish, some crude hydrochloric acid is poured into the dish, which is tilted this way and that, to get it well into all four corners, when it is returned to the (stoppered) stock bottle for repeated use. Now comes the loofah drumstick used for rubbing the inside of the dish, not forgetting the corners.

To clean the outside of a dish I find nothing better than monkey soap and a bit of loofah. If the outside is dirty the fingers get dirty, and so the plates and prints get mysterious defects. The cheapest hydrochloric acid, sold over here in the oil shops as "spirits of salts" at about eight cents per pound, is quite serviceable, and may be used again and again.

Now to Fig. 9. On our right is an ordinary *2d* bottle brush with the end trimmed to a rounded shape with scissors, so as to get right down to the bottom of a fairly small graduate. Next we have a similar but smaller bottle brush, with its end turned to one side. Why? That is the only way I know of for reaching the shoulder part of a bottle, and just where the chemical dirt seems to collect especially, and just the part that is so very rarely seen quite clean. Next we come to the wooden part of a thin penholder, round which has been twisted spiral fashion one of those pipe-cleaner wire brushes sold in the streets four or six a penny. Next to this is a similar but rather thicker brush with a rounded end. These are for getting right to the bottom of such small graduates as I show in Fig. 7. Brushes small enough for such sizes do not appear to be made commercially. I attach considerable importance to keeping graduates and dishes chemically clean.

Next we pass to a milk-white glass rod. Stirring rods of this material are more easily seen in the dark-room than are those of ordinary clear glass. To make such a tool, cut a bit of rod in the usual way with a file

nick and a good pull. Heat one end in a Bunsen or other hot flame until the glass is quite soft, then bring this end straight down onto a quite flat piece of metal such as a flatiron or the face of a good-sized hammer. This gives us a kind of flat-mushroom end. When this is cool, heat the other end, and when quite soft seize this end firmly between the flat jaws of a pair of pliers and give it a flattened, spread-out-shape. This last-named chisel-shaped end is useful for loosening a mass of crystals, etc., inside of a bottle, when they stick into a solid mass and will not shake loose. The flattened end enables us to crush and dissolve quickly a small quantity of solid.

A Reducer Prepared in a Minute

Take a crystal of potassium ferricyanide about the size of a pea, rinse it under the tap for a second, put it in a graduate, and add an ounce of your usual fixing bath hypo solution which has not previously been used. Now with your white glass crusher just described you can crush to powder this crystal and in just about one minute you have a reducer in the "pink of condition" and right strength.

THE RENOVATING OF DAGUERREOTYPES

THE cleaning of a daguerreotype so as to free it from the sulphur produced prismatic colors is an operation that requires the greatest care, so as not to injure the delicate image. The work must always be carried out in daylight. Under no conditions must it be performed by artificial light. Of course the scratches upon the surface must remain. The cost of materials is very small, but this is not what counts. It is the skill in handling that is so necessary, and as the daguerreotype is not plentiful, scarcely any can be obtained to practice upon.

The main surface is easily treated, but the sulphide of silver that has formed in prismatic colors at the edge of the mat is very difficult to remove. This defect can be removed, but not at the same time that the central portion is cleaned.

No. 1

Make up 5 ounces of potassium cyanide solution, 2 grains of the salt to 1 ounce of water, 10 grains in all.

No. 2

Make up another solution about 3 ounces, of 12 grains of potassium cyanide to the ounce; add to this 2 drams of strong water ammonia.

Remove the daguerreotype from its case. Do not attempt to dust it; simply let the water run in a steady stream from the faucet. Place the picture into the stream, let the water run well over it. Perform the operation over a sink. Pour the 2-grain solution on and run off into the graduate repeatedly, then quickly rinse in the stream of water *before* examining the effect. If the centre is all right, carry the process no further; if not, continue the pouring of No. 1 solution on and off until the image is quite clear. The whole operation usually takes about five minutes.

The cleaning of the edges is not so easy. While this next operation is carried out the plate must be continually rinsed during the operation, because this No. 2 solution is very active. Take a small strip of glass, a

quarter of an inch wide or three-eighths. Tie a very small tuft of absorbent cotton neatly on one end by white cotton twine, so as to form a very neat mop. Dip this into the solution, hold the daguerreotype at a steep angle, very carefully apply the liquid from the outer edge. Be careful not to allow the liquid to creep by capillary action over on the portrait proper. Look well to this, as only about one inch in length can be operated at a time. In a very short time the discoloration will clear away. Carry on this cleaning until the entire discoloration has been cleaned off. Be sure to repeatedly rinse the plate under the faucet.

All now being cleaned, the plate must be well washed by pouring *distilled* water over the surface, both back and front, the front especially, drain quickly, warm gently over the flame of a spirit lamp or gas stove (do not get it too hot). It is best held by the aid of a pair of flat nose pliers and carefully blown upon to aid evaporation. In less than a minute it will be quite dry, and will present a beautiful appearance. It can now be coated with amylacetate collodion, and carefully dried away from all dust. This operation will preserve the surface most effectually against any further tarnishing, and when refitted into its case, will present the appearance of new. Two daguerreotypes were cleaned by the described plan lately, the result being highly satisfactory. Any photographer making a specialty of renovating daguerreotypes can add a very profitable side-line to business. The price of $1 to $5 can be obtained for the work, according to the size of the plate.

NOTES ON PHOTOGRAPHIC REAGENTS

BY MATTHEW WILSON

(Concluded from p. 8.)

In regard to the compounds of iron which finds useful application in practical photography, the only two which need here be particularly mentioned are ferrous sulphate and ferric chloride. The former, known also as protosulphate of iron, and green vitrol, although obtainable in the anhydrous state, is usually sold in the form of green crystals which contain seven molecules of water. In the presence of moisture, the salt rapidly oxidizes, assuming a yellow or brick-red color, and for this reason cannot be long preserved without deterioration when in aqueous solution. When prepared, as is nowadays almost invariably the practice, from iron pyrites, the sulphate is very often contaminated with alumina and traces of unaltered sulphide of iron. It is also said to be sometimes purposely adulterated by the addition of lime, though hitherto the writer has not detected any indications of this impurity in the samples of the salt which have from time to time come under his notice.

When there is reason to suspect the presence of alumina or ferrous sulphide, these compounds, being both insoluble, may be easily removed by filtration, and, if so desired, the salt may be thereafter recrystallized from the clarified solution by evaporation.

Unlike the protosulphate, which is extensively used for a variety of purposes in modern photography, ferric

chloride is a compound that is in comparatively little demand. Unfortunately, too, it is extremely deliquescent, and absorbs atmospheric moisture with such avidity that it is almost impossible to preserve it in a perfectly dry condition for any considerable length of time. Hence, when there is a likelihood of its being required in the course of the daily manipulations, the salt, in order to avoid the inconvenience and risk that would arise through weighing it in a partially moist state, should be preserved for use in the form of a concentrated aqueous solution of known strength, which can be afterwards diluted at will so as to suit the individual requirements of varying formulæ.

Two other compounds of the heavy metals, viz., lead acetate and mercuric chloride, find a frequent but limited application in photography, the former because of its action in toning gelatino-chloride prints, and the latter on account of its intensifying properties.

The majority of the impurities that are, under ordinary circumstances, likely to be met with in commercial samples of lead acetate, as, for instance, plumbic oxide, sulphate and carbonate, lime, and silica, being insoluble, may be easily got rid of by filtering the aqueous solution of the salt. Samples, however, sometimes contain, in addition to these, traces of two soluble compounds, ferric acetate and acetate of lime, the presence of either of which adulterations tends to render the lead salt unsuitable for use in toning. Any admixture with the ferric compound will usually be indicated by the red-brown color which this imparts to the lead salt, failing which it may always be identified by the blue precipitate which results when the adulterated sample is treated with a solution of potassium ferrocyanide. Acetate of lime, if present in quantity, may be detected by treating the lead bath with excess of a solution of potassium chromate, filtering off the resulting yellow precipitate of chromate of lead, and treating the filtrate with a solution of potassium oxalate, when a white precipitate will be produced if lime be present.

Mercuric chloride, the corrosive sublimate of commerce, is generally obtainable without difficulty in a comparatively pure condition. The dry salt should be perfectly soluble in water, and also completely volatile on the application of heat. A non-volatile residue indicates the probable presence of sulphate of soda. The extremely poisonous properties of mercuric chloride are well-known, as are also the special precautions which are needful to be observed by the photographer when using the salt for intensifying or other purposes.

Of the organic acids (exclusive of those possessing developing properties) which fail to be included in the category of photographic reagents, acetic acid and citric acid are, from the technical standpoint, the most important. Samples of the former that have been imperfectly purified, sometimes contain a little sulphuric acid, and the use of such in photographic operations is, of course, to be carefully avoided. If this acid be present, it may be detected by the white precipitate which is produced when a solution of barium chloride or nitrate is added to the suspected sample.

The purity of the variety of citric acid which is sold in the form of crystals may usually be relied on; but the powdered variety of commerce is not infrequently adulterated with tartaric acid. If, however, the latter be present, the fact will be revealed by the white precipitate of potassium tartrate which is formed when a cold

solution of the suspected sample is violently agitated with a cold concentrated solution of potassium nitrate.

Ammonia, on account of the important and indispensable part which it plays in dry-plate development, is one of the chief photographic reagents. As usually purchasable in the form of a saturated aqueous solution, it should possess a specific gravity of 0.880, and contain a percentage of 27.3 parts by weight of gaseous nitrogen trihydride. In making up developing formulæ, it is, as the reader will be aware, customary to calculate the relative proportions of the several ingredients on the assumption that the ammoniacal solution which the photographer is employing is actually a saturated one. This, however, should never be taken for granted; for, the instability of the saturated solution being, even at ordinary temperatures, very appreciable, the density of the liquid is continually increasing owing to the gradual evaporation of the dissolved ammonia. Hence, when making up a given developing formula, in order to ensure accuracy in the addition of the requisite quantity of this reagent, it is always necessary that the strength of the stock ammonia solution should be exactly ascertained by preliminary testing. This may be done most expeditiously by means of the special form of hydrometer known as an ammoniameter, a cheap and simple piece of apparatus resembling in form and construction the instrument known as an argentometer used by photographers for testing the strength of the silver nitrate bath, but possessing a stem graduated to exhibit the range of variation in specific gravity peculiar to ammoniacal solutions.

When it is considered desirable to preserve solution of ammonia in bulk for subsequent photographic use in a more diluted form, a 10 per cent. solution (sp. gr., 0.950) will be found much more stable than the 0.880 variety, and may be kept for a year or even longer in a glass-stoppered bottle without appreciable loss of strength.

Leaving out of consideration, because of their demanding a fuller treatment than is here possible to bestow, the extensive and, as yet, very imperfectly studied series of organic compounds which are employed technically as developers, a few words in conclusion may be added concerning the remaining reagents—salts of sodium, potassium, and ammonium—which are commonly to be found on the shelves of the photographic laboratory.

Of the compounds of the first-mentioned metal which are serviceable for photographic purposes, the most important, technically speaking, are the sulphite, carbonate, acetate, borate (borax), and thiosulphate. The potassium salts are equally numerous, and include the bromide, cyanide, dichromate, ferricyanide, and oxalate. Of the ammonium series of compounds the only two of any real consequence are the carbonate and the sulphocyanide, for the bromide, although not infrequently employed in development, can hardly be classed as a perfectly satisfactory photographic reagent.

Samples of sodium sulphite which contain more than the merest trace of sodium sulphate should never be used for developing purposes. The compound in question may be detected by the barium chloride test already described. In the absence of this impurity the white precipitate which will be produced should, unlike barium sulphate, which is a very insoluble body, dissolve freely when heated with hydrochloric acid.

In regard to the thiosulphate, better known to photographers under its antiquated name of hyposulphite of soda, the only objectionable impurity that is likely to be met with in crude samples is sodium sulphide. It may be identified when present by the rich purple color which will be produced when the aqueous thiosulphate bath somewhat concentrated in strength is treated with a test solution of sodium nitroprusside.

Sodium acetate and sodium borate, the two salts most in request for the toning of silver prints, are both comparatively inexpensive, and are therefore without difficulty obtainable in a practically pure condition. The acetate is chiefly remarkable for its deliquescent properties, owing to which, as a necessary measure of precaution, the crystals should never be allowed to remain exposed to the action of a moist atmosphere.

Sodium carbonate, a salt extensively used as a constituent of the developing bath, is, as supplied commercially, a body of very variable composition, on account of the fact that it combines with water in several different proportions to form a series of hydrated compounds. The common crystalline carbonate, popularly known by the name of washing soda, the use of which for the preparation of developing solutions is almost invariably recommended, should, according to theory, contain ten molecules of combined water, notwithstanding which, however, chemical analysis shows that the percentage of water actually present is extremely variable. In making up a carbonate solution for purposes of development, it is better, therefore, whenever this is possible, to employ the anhydrous salt in preference to the hydrated variety just described. As the molecular weights of these two compounds are 106 and 286 respectively, it is only necessary, in order to ascertain what quantity of the former corresponds to any stated quantity of the latter in a given developing formula, to multiply the formula weight of the hydrated carbonate by the factor 0.37, and the product will be the equivalent weight of neutral anhydrous carbonate which will be required for the preparation of the bath.

Of the potassium compounds above enumerated, the dichromate, bromide, and oxalate do not seem to call for particular notice. The common or commercial cyanide is a very crude salt, and always contains a large percentage of potassium carbonate, the presence of which, however, in so far as the photographic utility of this very poisonous reagent is concerned, is unobjectionable.

Postassium ferricyanide, used both as a reducing and an intensifying reagent, occurs in red prisms which in course of time, even when preserved from the air, become superficially oxidized. In order to remove the incrustation of oxidized matter, the crystals should, before weighing operations, be momentarily immersed in water, and then carefully and thoroughly dried by exposure to a gentle heat.

Ammonium sulphocyanide greatly resembles sodium acetate in respect of the property of deliquescence, and must therefore, like the latter, be carefully protected from the action of moisture.

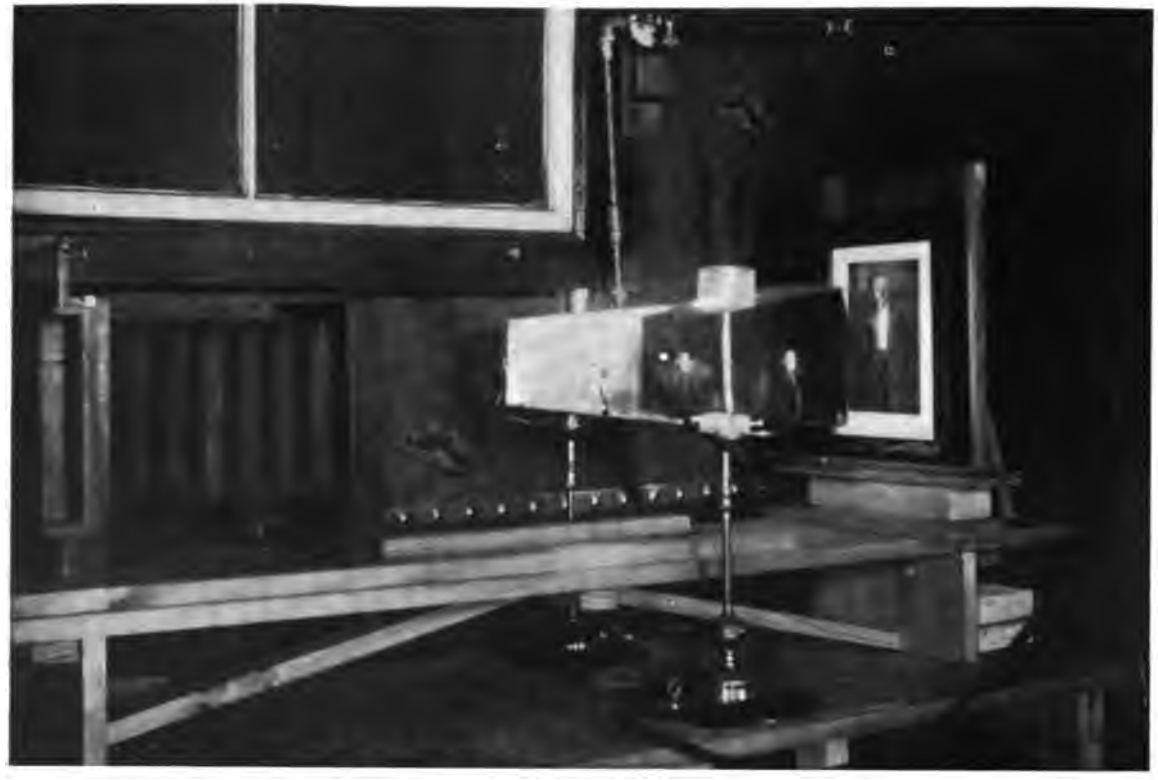
Ammonium sesquicarbonate, useful as a developing reagent, varies somewhat in composition according to the manner of its preparation, and usually contains a considerable percentage of ammonium carbonate. As it is rather apt to deteriorate on keeping, a freshly prepared sample should be procured for use on those special occasions when the salt is required for making up a developer.

Profile Study

By SCHLOSS, New York

See "The Filmy Style of Portraiture"

By Percy R. Solomon



See "A Practical System for Photographic Copying by Gas-Mantle Reflections"

By James Gordon

See "Time Saving Dodges"

By F. C. Lambert

See "Time Saving Dodges"

By F. C. Lambert

1. Pope Julius II
2. Portrait of Himself
3. Pope Leo X
4 Maddalena Doni

Illustrating Sidney Allan's Article

5. Madonna Della Tenda
6. Angiolo Doni
7. La Donna Velata
8. Madonna and Child

Illustrating Sidney Allan's Article

9. Portrait of an Old Man
10. Madonna Di Tempi
11. La Fornarina
12. Madonna Di Casa Colonna

Illustrating Sidney Allan's Article

MASTERS IN PORTRAITURE—RAPHAEL

BY SIDNEY ALLAN

MODERN taste finds Raphael too illustrative. The general opinion is that he is more of a draughtsman than a painter. The reason for this may be that most of us only know his works through engravings. It is only when a traveller crosses the Alps and lingers in Italian museums that the beauty and perfection of Raphael's art is fully appreciated. He painted like most of the Old Masters, in a smooth way, that is, without showing any brush-strokes or rough surface texture, but he surely could paint as well as any of his great contemporaries.

This is particularly noteworthy in his portraits. Simpler character delineations than Figs. 6 and 9 can hardly be imagined. The lines are perhaps here and there somewhat harsh and hard, over-accentuated as it were, but notice how luminous the entire facial plane is kept, and how subtle the values of the middle tints are.

Raphael rarely used deep shadows; he got depth by drawing and contrast. Fig. 2, his Self-portrait, reproduced in black and white, looks like a simple arrangement in three tonal planes. The bust, hair, and cap seem to be of the same value, almost black. The face and neck represent a flat, light tint and seem to have been modelled, and received this feeling of rotundity largely by drawing. The remainder of the picture consists of a plain middle-tint background, growing slightly darker toward the margins. The latter is one of Raphael's devices of composition to produce the illusion of atmosphere. You will notice the same effect in Figs. 6, 8, and 12. It lends perspective to the background, and a figure thus placed *recedes*, a quality that is especially desirable in portraiture. A figure that looks as if it wanted to jump out of the frame at any moment is rarely in good taste.

Raphael was one of the most scientific painters. Certain mathematical problems of form were always underlying his themes. Of course, this is more evident in his larger canvasses, but even in his portraits he arranged forms in geometrical fashion. Nearly all his portraits as well as some of his Madonna pictures carry out a pyramidal arrangement. He kept as near as possible to the equilateral triangle. The accompanying illustrations, with the exception of Figs. 2, 5, and 6, prove the value of this method. Figs. 7, 8, and 10 do this in the most convincing manner.

The pyramidal shape is best adapted to fill a square upright. There is no getting away from it. Despite all modern space arrangements, it is the simplest and most satisfactory way to pose a bust or knee-piece, viz., Figs. 1 and 3. It produces in the beholder a certain feeling of symmetry, it rests the eye unconsciously, and despite its apparent rigidity, or other limitations, offers the most favorable opportunities for harmonious effects.

Fig. 3, the famous portrait of Pope Leo X, with the two figures in the background, is almost architectural in its effect. It lends dignity to the figure of the Pope. The same idea is carried out in a modified way in Fig. 1 by the two ornamental posts of the back of the chair. Notice how well the light planes in Fig. 3 are placed. The faces of the two priests are depicted in middle-tints with a few highlights, while the face of the main sitter is luminous throughout. Equally fine

is the connection of the light planes of the sleeves, hands, and book across the lower part of the picture. In conjunction with the heads these planes produce a repetition of curves very much like this ⌣. Also in this respect the arrangement in Fig. 1 is similar.

In Fig. 4 we notice a circular tendency of lines; in Fig. 5 a juxtaposition of curves; in Fig. 6 a rectangular feeling, and so on. Raphael was aware at all times that the fundamental forms are the most reliable forms in composition. He used them as a kind of skeleton construction, the understructure of his harmonious arrangements. It is that which modern portraitists should study. Everybody knows enough about geometry for that, and the rest is largely a matter of feeling and experiment.

With a geometrical shape as a basis for the distribution of lines and masses, a portrait will always gain in strength. It will fill the space and produce an impression of unity, which most portraits lack.

Figs. 1, 2, 3, 6, and 9 are masterly character delineations. They are drawn with almost the same precision as Holbein's Windsor Castle drawings. They are *modern* in treatment; that is, there is nothing medieval about them. Figs. 2 and 6 look as if they were composed by some modern painter who took some special interest in clever space arrangements. And this is probably the reason why so many painters who have only a shoulder shrug for his scenic canvasses, talk with enthusiasm about Raphael's portraits. They apparently will never age and be influenced by the changes of time.

Also his Madonnas we still admire. But it is a different kind of admiration, the respect of tradition rather than of immediate appreciation. The portraitist can still learn much from them, particularly in grouping. Rarely has the placing of three heads been accomplished in a more masterly manner than in the Madonna della Tenda, Fig. 5. Figs. 8, 10, and 12 all teach their lesson. The Madonna and Child, Fig. 8, is the most monumental, depending largely on line. There is little religious or maternal feeling in it. It is cold and serene.

Fig. 10 is much more human. It is just a mother and child represented with touching simplicity. The silhouette against the background is excellent, and equally excellent is the placing of the hands of the mother and the limbs of the child. The values are exquisitely soft and beautifully related to each other. The line work is profuse and yet not obtrusive. One feels the line less than in some of his pictures.

Fig. 12 is unusually animated. The curve shape of the child's body is balanced by the attitude of the mother's head and the hand holding the book. There is hardly ever any discordant note in Raphael's line arrangements. The lines juxtapose and flow into each other with perfect ease. Hardly any painter is worthier of studying in this respect than Raphael.

Raphael has been criticized that even when the subject of his canvasses was terrible or violently dramatic, they remained mild and soft, pleasing and friendly. This does not seem to hold good after looking at his portraits. Their range of moods is very wide. There is seeming joyfulness, melancholy, sadness, sentimentality, in his Madonnas, and frankness, austerity, strength, and emotional anguish in his portraits. True enough, everything is softened down to beauty; but each of his figures is an individuality—and this is possible only to a most receptive artistic nature, which Raphael possessed to an extraordinary degree.

ON THE KEEPING QUALITIES OF GELATINE NEGATIVES

BY T. TENNANT WOODS

ALTHOUGH a considerable amount of attention appears to be paid to the question of keeping unexposed plates, and comparatively small amount of care is given to plates when once they have been exposed and developed, and yet a good negative is more often than not of much greater value than many dozens of unexposed plates.

A few years ago, I was in the employment of one of the leading Continental photographic publishing houses, and had under my care some thousands of valuable view negatives. Not so valuable nowadays as perhaps they were before the now popular picture post-card damaged the scrap-view business, but still of great value as "record" pictures and a valuable asset.

The proprietors of the firm in its early days were painfully methodical in the matter of recording technical details of working, and not only were details of the subject recorded in an elaborate index, but the developer used as well, and, when required, particulars of intensifying, etc. Such technical details, however, were of little value unless it be to judge the keeping qualities of certain negatives, a use to which I put the details when compiling statistics.

The firm was founded in the old wet-plate days, and I was astounded at the excellence of the old wet-plate negatives. A set made in Paris during the siege, that is to say during the winter of 1870, was as good as it was when the Germans entered Paris during the last week of January a little more than forty years ago. My interest was, however, centred on the gelatine plates, which were adopted by the firm in the early eighties, but the exact date I have not by me as I write.

Pyro was used then as a developer, as indeed it is now by the firm, with ammonia at first and later with soda, and the negatives fixed and washed in the usual way remain in a perfect state of preservation. I need hardly say that the negatives were varnished with a solution of shellac in spirit. A few which for some reason or other escaped the varnishing were silver-stained very badly, stains which it was impossible to remove by any of the modern methods. In a very few isolated cases a few silver spots were to be seen on some of the varnished plates, but as probably no other negatives in the world have had so many silver prints taken from them, a few spots were perhaps to be expected, particularly as the boys engaged in printing from them were none too careful.

Negatives having a good plucky black image were in later years favored by the firm, and those operators who produced yellowish images were very soon taken to task, and it may be interesting to some to know that anhydrous soda sulphite and not crystals was insisted upon, so much so, that when an operator undertook a voyage to the opposite side of the world, he was compelled to take his anhydrous sulphite with him, in case it should not be obtainable where he was to work.

Negatives which for some reason or other were thin or yellowish were invariably treated with mercury and ammonia, and only in a very few

instances were such negatives well preserved. If such negatives, to use a slang term, were "caught bending," or, in other words, were found to be turning yellow, they were revived by means of a solution of Schlippe's salt and in many cases were thereby made very slow printers. I saw enough to convince me that mercury intenification, unless the negatives are well washed after fixing, and a weak hydrochloric acid solution used after the mercury bath, is one of the worst to employ if the negative is to be kept for many years. In some instances a solution of soda sulphite was used after the mercury and it must be admitted that those treated with sulphite had kept much better than those for which ammonia was used, but they were not perfect. This was of course before Mr. Haddon showed that mercuric chloride could only be entirely removed from the film by washing in a very weak solution of hydrochloric acid. Had this method then been in use it is quite probable that the mercury-ammonia negatives would now have been in an excellent state of preservation. The firm has now rightly adopted the method of blackening the bleached image by means of ferrous oxalate.

The year 1893 witnessed the banishment of the mercury and ammonia method of intensification from the works and the adoption of the mercuric iodide formula (one solution). Its chief drawback in the eyes of the firm was that it frequently left a yellowness in the shadows, particularly if the hypo had not been thoroughly eliminated. This difficulty was got over by immersing the intensified plate, without washing, for a minute or two in a week solution of hyposulphite of soda (one in thirty) which cleared away the yellowness and left the image a bluish-black color. Negatives so treated kept remarkably well, far better than those treated with ammonia, and many of them were in after years as good as they were on the day of intensification.

I was not surprised to find that three kinds of fixers had been used—plain hypo and water, hypo with acid, and a mixture of hypo and alum. The latter I may say is being used today, and if ever a mixture frightened me it was that mudlike fixing bath. I dread to think what some of the negatives may look like twenty years hence. Be that as it may, they swear by it, and no amount of talking would persuade them to go back again to plain hypo, although as their own negatives prove to them that they can have nothing better; those silent witnesses, thousands of them stored away, converted me at once as to the excellence of plain hypo and water without any other addition and the durable negatives it helps to produce when properly used.

Modern acid fixing baths may possibly be better than those advocated many years ago. I do not know the actual formula used by the firm I am writing about, but the negatives fixed with it long years ago present a bountiful supply of clear spots or holes which appeared to have been eaten into the gelatine. Probably twenty-five per cent. showed the holes. Hypo elimination by chemical means was not so successful as I expected; the most permanent results were those with which hypochlorites were used, but the hypo eliminators—those of years ago at any rate—were distinctly unsatisfactory.

Finally a note on the storing of negatives, as it is an important factor. The most important negatives were kept in grooved boxes, and there is certainly no better method, as not one of the thousands so stored that

passed through my hands showed any defects which could possibly be attributed to the storing of them, but they took up an immense amount of room. The less important negatives were stored in common paper bags, and some were very badly marked, particularly those which had not been moved for about twenty years. That the markings were caused by the bags I am certain, because in some cases the folds and joins of the bags as well as the flaps were plainly visible.

Judging from these negatives, probably the largest stock in the world, I think we may conclude that gelatine negatives are as durable as collodion negatives provided proper precautions are observed, namely: To develop properly and so secure the required density without intensifying; fix thoroughly in one or more fresh baths of plain hypo, and remove the last trace of the fixing agent and derivatives of the fixing process by well washing in water only; finally, varnish with a shellac varnish, collodion, or a solution of pyrozyline in amyl acetate. Theorists are strongly in favor of the latter for permanency but experience has proved to me that shellac in spirit will serve equally well.

PHOTOGRAPHING THE BABIES

Mr. Felix Raymer is nothing if not practical. His monthly contributions to our valued contemporary, *Portrait*, are always most instructive and helpful. His illustrated article in the February number, entitled "How to Manage Very Small Babies," is no exception to the rule. Mr. Raymer writes:

We all know that the first baby is brought to the stuido at a very early date after his arrival on this planet; the second does not make his appearance quite so soon, and the third is still slower about getting in, and so on until after a time the baby's picture is not made until he is no longer a baby. But it is the first baby that the parents are more particular about and it is up to the operator to do his best to please.

It has been our experience that an ordinary high-chair, such as is used for the baby when he is first brought to the table, is about the best accessory for the holding of the baby in position. The arms of the chair give his back a support, and the chair being high gets him up high enough so that the camera does not have to be lowered so much as to make it impossible for the operator to get the focus without standing on his head to do it.

This chair is placed under the light so as to get the greatest amount of illumination, for we believe in making the kiddies in snapshot fashion, not giving them a chance to move. Then the chair is covered with a portiere curtain, one end of it being thrown over a background so that it drops down over the chair in folds. The curtain can be of any design or pattern the operator prefers, or of as fine a quality, depending upon the length of the proprietor's pocketbook. Then the baby is placed in the chair so that the curtain is pushed backward into the chair by his body; the chair being high allows the long dress to drop downward and prevents the "bunching" up of it that is so objectionable to all mothers. Now here is where two good features of handling the youngster in this manner come in. After the baby is in place have his

mother or the nurse, whoever it is that comes in with him, stand behind the curtain and catch his dress from behind, holding him through the curtain so as to prevent his falling out, and at the same time with her other hand hold the edge of the curtain so that it covers her body from view. The first good feature here is to prevent the child from falling; the second is to get the mother out of the way in a diplomatic manner, by having her *behind the curtain* and not out in front retarding "action" on the part of the operator and finding fault with every exposure he makes on the grounds that the baby is not smiling or laughing. This gets the mother or nurse away so that she does not see the expression or position until the proofs are shown, and if any changes are desired before showing them the operator has a chance for making them.

If a vignetted print is desired the curtain should be of a lighter color or tone. Remember that the curtain is nothing more or less than a background, only it is used in such a manner that it helps the operator to get the small youngster in such close quarters he cannot move during exposure.

Of course we know there is nothing of an excessively artistic nature in the handling of the children in this manner, but as a rule we cannot practice any great amount of artistic ability when we are making sittings of a three months' old baby. As stated before we believe in making all sittings of this kind in as short a time as possible; an exposure even if a little short can be handled in the developing so that a good negative will be the result, as young children are very prone to move, and we all know the disappointment and consequent taxing of our patience when plate after plate is spoiled by the baby moving during exposure.

SOME HINTS ON FLASHLIGHT WORK

At this season of the year opportunities are constantly arising in every living-room for securing good studies of relations and friends, and it is worth knowing that with a very little trouble to ourselves or inconvenience to our friends, we can register the characteristic attitudes and habits by which we know them. They may be fond of reading, playing chess or dominoes, or some other game; or perhaps, if ladies, they may be interested in sewing, knitting, etc.; but whatever the occupation may be, we can rest assured that with the aid of flashpowder we shall be able to secure results which will be a "joy for ever."

Rapidity and Ease of Work

It will be found that there is no need to ask the models to pose, as combustion of the powder only occupies about one twenty-fifth of a second; by careful watching, the period of least movement can be discovered, and when a repetition occurs the exposure is made. Another advantage lies in the fact that the sitters are photographed amidst familiar surroundings, and therefore more likely to be at their ease than would be the case in a professional studio.

The smoke resulting from ignition of the powder has led to many ingenious arrangements being devised for the

purpose of trapping it, but the writer has never experienced much inconvenience from this source. The plan I adopt is to open the window slightly at the top and leave the door ajar—the draught thus formed soon clears away the smoke—which, by the way, is not very much with the modern powders.

One of the objections against flashlight work is that it results in what have been termed "soot and whitewash" photographs, and another that the figures often have a strained or frightened look in their faces. These are defects due to the operator's inexperience or want of care, and are by no means inherent in the process, and the object of this article is to show how these defects can be overcome.

The first important point to be remembered is that a flashlight portrait should not reveal in itself the fact that it was obtained by means of artificial light—the exposure must have been sufficient and development carried out correctly.

Home Portraiture by Flashlight

And now as regards methods of working. The use of touch-papers supplied with the powder is not recommended for portraiture, it is sometimes responsible for the strained features referred to above. Those who have had portraits taken under these circumstances will remember that the sizzling of the paper prior to the flash taking place produced anything but a pleasant sensation. Far preferable is some form of flash lamp, which allows of the exposure being made instantaneously, *e. g.*, the Agfa flash lamp. Those who do not wish to go to the expense of buying a lamp, however, will find that an old plate or piece of tin on which to place the powder, and a taper to fire it with, will meet the case effectively. If these means are employed, it is advisable to provide a stout piece of cardboard to act as a reflector. This is placed behind the receptacle containing the powder, and a narrow slit should be made down the centre of the card so as to allow the taper to be passed through and be held six or eight inches above the powder. When ready to make the flash, the taper is simply lowered, and ignition takes place immediately. The cardboard will also protect the hand and eyes from the light.

When dealing with strightforward portraiture, the lamp should be placed fairly high up, and to the right or left of the camera, so that the light will fall on the subject at an angle of about 45 degrees, and a large sheet of paper or white cloth used to lighten the shadow side.

The amount of powder varies with the distance at which is is placed from the model, and is also influenced by the color of wallpaper and surroundings. For instance, a light-papered room, with a subject in a white dress, would only require from quarter to half as much as a darker figure in a room having a dark green paper. An exposure or two based on the maker's instructions, and allowing for these influences, will, however, give the reader a good idea as to the the quantities to use. It is advisable to keep a record of these particulars, also those of plate and stop at which the work is done, as they will be found a very useful guide for the future. A smaller stop than *f*/8 is rarely necessary; there should be enough depth at this aperture, and stopping down only means increasing the amount of powder burnt. When working with a single lamp there is a considerable falling off in illumina-

tion the further the subject is from the light; therefore it is best to avoid groups having members more than two or three feet apart, as the exposure requisite for the distant figures may result in the nearer ones being badly overexposed.

The powder should be arranged on the lamp in a ridge—not a heap. This permits of better combustion, and the light will be spread out somewhat, and not appear to come from so concentrated a point as would otherwise be the case.

The ordinary lights of the room are best left burning when obtained, remove the eye-piece and insert the black paper or velvet tube, and apply the box screen-holder with a quarter-plate fine ground glass as a preliminary focussing screen. Place the mirror at the back so that the image may be seen by reflection. While we are yet standing by the microscope, adjust the camera box nearer or further away to obtain about the amplification required. Now the light or the substage condenser may require a little adjustment, and when the best conditions and focus have been obtained by the fine focussing adjustment leave the microscope alone, and devote attention to the other end. The mirror may now be removed and a plain glass applied in place of the ground-glass, and by using a focussing magnifier it will probably be found that the image is not quite sharp (remember what Bill Jones said about the right end of the lever); then adjust the camera box up or down the baseboard until the very best result is obtained. By this method much finer focal adjustment is possible than by any arrangement of rods, pulleys and cord or attachments with the fine adjustment of the microscope itself. Of course, the alteration in position of the screen will affect the magnification more or less. All that has now to be done is to close the exposure cap, apply the sensitive plate—a loose cloth may be thrown over the back to protect the plate from any stray light in the room—and make the exposure.

Very much could be said upon the manipulation of the microscope; the illumination, with its variations and adjustments; the magnifying powers, etc., of objectives; the different classes, color, and suitably of objects; light filters and sensitive plates, but the last two conditions need not trouble the beginner, whom I am endeavoring to assist.—THOS. H. MORGAN in *Amateur Photographer*.

Your business principles may be right, your goods the best, your service to customers faultless; *but the public has to know about it.*

Remove all traces of hypo before attempting intensification.

Do not dabble in intensifiers or reducers with cut or scratched fingers. Blood poisoning may ensue.

Shadows may be reduced by working on matt varnish on back of negative with blacklead applied with a stump.

Extreme intensification is obtained by applying Schleppe's Salt (sodium sulphantimoniate)– 15 grs. per oz. of water to the well-washed bleached negative.

An intensifier that can be applied to the negative almost immediately after fixing is: A. Mercuric chloride 60 grs., water 8 ozs.; P. Potassi iodide 180 grs., water 2 ozs.; C. Hypo 120 grs., water 2 ozs. Add B. little by little to A. Red precipitate appears; add more of B. until just a trace remains; then add C. Rinse plate only from fixing bath, and when dense enough remove to water for two minutes and then to hypo (10 grs. per oz.) for a few minutes and well wash.

A PRACTICAL SYSTEM FOR PHOTOGRAPHIC COPYING BY GAS-MANTLE REFLECTORS

BY JAMES GORDON

TIME and again it has been asked, What is the best way to make photographic copies by artificial light? Many suggestions have been made and put into use, particularly the employment of the incandescent electric lamp.

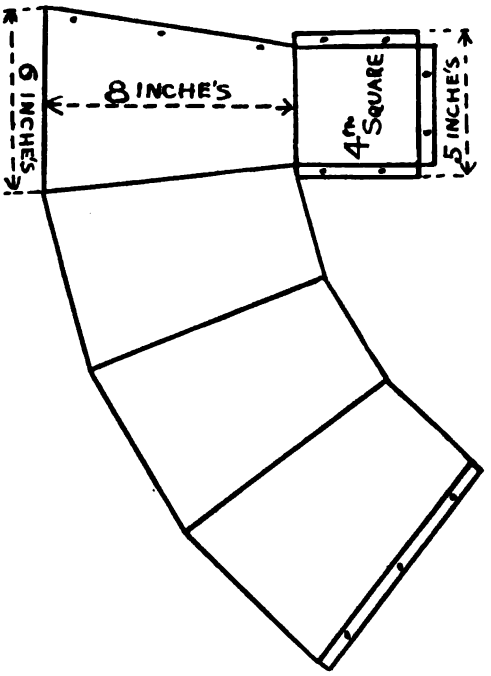
The use of the electric arc lamp by photo-engravers is well known, where two arc lamps are employed, each lamp enclosed in a square or circular-hooded reflector, so arranged that the light can be cast upon the object to be copied from each side. This is an expensive method; besides, it is not every photographer that would feel disposed or able, from a financial standpoint, to adopt such a fit up. And further, although gas mantles have been used in numbers all around the object to be photographed, the plan to be described has been put to the test and answers perfectly in every way.

No matter what the weather, night or day, photographic copying can be carried on at any time with an absolute certainty. In fact, the brightest light is obtained during the evening, because the gas pressure is greater during the evening than it is in the daytime. To make up the outfit procure two gas-mantle table lamps, remove the usual top shade (usually supplied with this class of lamp), straighten the three brass shade supports at the ends. This is accomplished by making the tips red hot for about one inch down by a spirit flame, and when cold they will be soft enough to yield to the squeezing of a pair of pliers. Now make up two tin-plate reflectors (the tin-plate need not be very stout). Cut this out of one sheet of tin, to the shape and size given in the diagram, so that when it is bent to shape it will present the appearance of a Quakeress's bonnet. Allow for uniting at the joints by allowing the tin to lap over, say, half an inch. This done, proceed to cut a hole in the top and bottom of the reflector to allow the lamp glass to pass through, rivet three tin loops upon the sides and back of the reflector, to allow the straightened shade supports to pass into. This will hold the reflector firmly. They can be soldered in the usual way if desired. Interior of the reflector must be coated with a non-burnable dead white. This is accomplished by a mixture of plaster-of-Paris in water to the consistency of cream, and carefully laid on with a flat brush, one costing five cents will do. The plaster white will not take freely to the tin plate at first, but will readily do so after a few strokes of the brush, and when dry the pure dead white answers perfectly as a reflecting surface, adheres firmly, and never burns or changes color. These two lamps are attached each to a separate gas bracket, and arranged as shown in the illustration (p. 67). The portrait to be copied, enlarged, or reduced is placed in an 8 by 10 printing frame, against a clear and faultless glass plate. When the light of the two reflectors is thrown upon the portrait from each side, the illumination is perfect, and when viewed through the camera the image upon the focussing screen presents a charming appearance—clear and free from glare—enabling a copy to be made (according to the lens and plate) in from ten to sixty seconds, yielding a perfect negative upon development.

The camera stand in this instance should be a firm table, as shown, so that it can be used as a permanent adjunct to a photographer's business. The light from this arrangement is of such an even intensity, it is easy to judge before-hand the time necessary for a perfect negative. This not only saves the loss of a plate, but it prevents annoyance and vexation, and facilitates the rapid production of photographic copies of any kind.

Being arranged in the same way as the arc light is used by the photo-engraver, no better plan presents itself for the general uses in copying by either the professional or amateur photographer.

This diagram for shaping the tin plate for the reflector is self-explanatory. The sizes given in figures, if followed, will give the exact reflector, the holes being cut out to allow the glass chimneys to pass through, after the reflector is shaped and riveted. by placing the reflector upon a piece of bar iron and following a circular line made with a pair of dividers. The whole outfit can be readily made by any one that is handy with mechanical tools, and save the cost of a more elaborate and less efficient reflector.



PHOTOGRAPHIC SUPPLIES IN GERMANY

According to a published estimate, the capital invested in the German photographic industry amounts to about $15,000,000, without taking into consideration large sums employed in the intermediary trade between the manufacturers and consumers. It is said that there are about 400 factories

engaged in the production of photographic materials and accessories. Among these are 25 manufacturers of optical goods, 55 chemical works, 28 makers of photographic paper, 31 dry-plate factories, 28 factories manufacturing cameras of all descriptions, and 200 factories making various accessories. Of the products of this industry about one-half are exported and the rest consumed at home.

The manufacture of dry plates has long been an important one in Germany, and the home demand has been largely supplied from domestic sources. Until recent years, however, German manufacturers have not paid much attention to the production of film cartridges, even for use in cameras designed particularly for amateurs. The present supply of films is still largely of foreign, chiefly American, origin, but it is noted that the domestic supply is constantly becoming more ample. The three chief domestic manufacturers of films put up in cartridge form are located at Berlin-Steglitz, Berlin, and at Frankfort-on-the-Main.

An official of the Verein der Fabrikanten Photographischer Artikel, or Association of Manufacturers of Photographic Articles, states that German film manufacturers are neither allied with nor controlled by manufacturers in foreign countries. They are, however, more or less closely allied with each other, as all are members of the above-mentioned association, which devotes itself chiefly to the support of the German export trade in photographic articles.

REPORT OF THE EXECUTIVE COMMITTEE OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA

At the call of the President, Charles F. Townsend, the Board of Officers of the Photographers' Association of America met in executive session at the Baltimore Hotel, in Kansas City, Mo., on January 6. Those present were: Charles F. Townsend, President, Des Moines, Iowa; Manly W. Tyree, First Vice-President, Raleigh, N. C.; Will H. Towles, Second Vice-President, Washington, D. C.; L. A. Dozer, Treasurer, Bucyrus, O.; Homer T. Harden, Secretary, Wichita, Kans.

President Townsend appointed the following Committees: Stationery, Mr. Tyree; Buttons, Mr. Dozer; Headquarters, Mr. Dozer; Decorations, Messrs. Harden and Ben Strauss; Auditing, Messrs. Towles and Harden; Entertainment, the entire Board; Press, D. P. Thompson, Will H. Towles and Ben Strauss; Hotels, L. H. Studebaker and O. B. Reeder; Information Bureau, the Local Committee; Transportation, Z. T. Briggs and Henry Moore; Association Annual, Messrs. Tyree, Towles, and Dozer; Publicity, the entire Board. Legislation, Messrs. Holsinger, Holloway, Harris, Ben Larimer, Clarence Hays; Membership and Credentials, Charles Lewis, Toledo, Ohio; H. E. Voiland, Sioux City, Ia.; F. Schanz, Ft. Wayne, Ind. Applied Ethics, R. W. Holsinger, Charlottesville, Va.; G. W. Harris, Washington, D. C.; F. A. Free, Davenport, Ia.; Ed. Brush, Minneapolis, Minn.; Sam'l Hurst, Hutchinson, Kansas. Progress of Photography, Wm. H. Rau, Philadelphia, Pa.; Emma Gerhard, St. Louis, Mo.; Edward J. Davidson, Kansas City, Mo.; Foreign Affairs, Carl Ackerman, New York.

The Secretary was instructed to

have prepared a letter of resolutions to the Senators and Representatives in Congress of the five States represented on the Board, asking them to assist in defeating the portion of the Lodge Bill relating to the sale and display of photographs.

Various suggestions and matters pertaining to the conducting of the 1913 National Convention were discussed and the following Resolutions were unanimously adopted:

That a six-day convention be held beginning July 21, 1913; that Kansas City's offer of the use of Convention Hall be accepted; that a practical studio in operation under the best talent obtainable be arranged on the floor of Convention Hall under the charge of the President, assisted by the Secretary.

That the Kansas City Entertainment Committee's offer of automobile rides at 8 A.M. and 4.30 P.M. during the week, for tours of parks and boulevards and Wednesday evening of convention week at Electric Park, as their guest, be accepted with thanks.

That not more than five pictures be solicited from each exhibitor to be passed upon by a jury; that the Association publish a record of the convention.

That not more than twenty pictures be selected from the exhibits for reproduction in the *Record*, but that no picture be selected except those made by members in good standing of the P. A. of A.

A general advertising campaign was arranged. A contract was signed with a local decorating company for construction of all booths of a uniform design. A very interesting program was outlined. Details of which will be given out later.

Convention Hall is the largest and most conveniently arranged building the Association has had for many years. The booths will be 10 x 12 feet, instead of 8 x 8 as at Philadelphia last year. There is plenty of room for wide aisles and even the desk space will not be crowded.

The Board was given an elaborate banquet at the Baltimore Hotel on January 10 by the Kansas City photographers. There were about sixty present.

SUMMARY OF TREASURER'S ACCOUNT FOR 1912

Cash on hand January 1, 1912		$7,629.16
Received from:		
Membership and dues	$3,729.00	
Sale of ladies' pins	16.50	
Per capita tax of affiliated societies	234.75	
Advertising in 1912, annual	1,510.00	
Sale of floor space in Convention Hall	4,428.78	
Interest, Sec. National Bank	176.26	
Tickets to Atlantic City	36.00	
Sale of annuals, gum printing books, glass, etc.	17.46	
		$10,148.75
		$17,777.91
Paid out on vouchers, 1134-1248 inclusive	$12,316.16	
Cash on hand January 1, 1913	5,461.75	
		$17,777.91

The grooves in most grooved drying racks are too close together. At least an inch should be left between each negative when put to dry in a rack.

A black spot on a negative can be removed generally by picking it out with a needle, and then filling up the tiny hole with spotting medium of the right color.

Halation in negatives can be rubbed down with a tuft of cotton wool and methylated spirit, or with: Salad oil, 2 ozs.; terebine, 2 ozs.; a 2d. tin of Globe Polish (Baskett's formula).

WHEN SHOULD DEVELOPMENT BE STOPPED?

THIS is a difficult question, even for experts, for what is right with one make of plates or one emulsion is not right with another, and it is only after they are fixed that one finds with disappointment that the plate which in developing gave hopes of a fine negative, turns out flat, thin, and without detail in the shadows, or, on the contrary, hard, dense, and slow to print, and that will only give an acceptable print after reducing. And so it is, in truth, a difficult matter to stop development just at the right moment.

Experience indicates in both above (most common cases) what to do to obtain the best results. If the image appears plainly on the glass side when developing, one should not wait until it becomes too dense, for it will reduce very little in fixing; watch the details. When these are obtained fully, place your plate in the hypo. In the other case, if, notwithstanding pushing development, the image does not show through, do not be afraid of giving too much density, as it will weaken considerably in the fixing, and thus give a negative of good values.

Some plates that have a very thin emulsion show the image on the glass side almost from the start, deceiving the operator, who, judging by this appearance, finishes developing too soon, and gets a very weak negative. In this case, development should be carried out until the plate is completely opaque and the image by reflected light seems to have disappeared; but in the fixing bath, especially if it contains bisulphite of sodium, harmony will be re-established.

ONE way to determine whether a print has normal exposure regardless of the temperature of the developer, is to watch the action of the print in the developer.

Developer at any reasonable temperature will develop a print, and if the print has been normally exposed the image will build up to the proper depth, when development will pause or stop. If development has to be forced beyond the pausing or stopping point, the print is under-exposed. Give more exposure. If the print reaches the desired depth before the development pauses or stops it is over-exposed. Give less exposure.

By remembering that the chemicals used in the developer work slowly when the solution is chilled, you will avoid some of the difficulties you might otherwise encounter.

One other thing to remember is that ice cold wash water will not remove the hypo from prints in as short a time as water at a higher temperature, and if the water is very cold prints should be carefully separated and washed very thoroughly.

SOME FIGURES

THE statistical bureau at Washington has just published some interesting figures concerning the import and export of photographic goods to and from this country. During 1910, the photographic paper imported was worth $931,200, motion-picture films and positives, $333,120. Other kinds $45,000. All other films and plates, $325,440. Of the photographic paper,

Germany supplied $537,600 worth. France some $371,520. England sent only $21,120 worth.

The export of photographic goods from the United States totalled $7,668,480 for 1911 as against $5,717,760 in 1910, and $4,221,120 in 1909. By far the largest buyer is Great Britain who purchased in 1911, $5,211,840 worth, Canada coming next with $459,840, and France following with half that amount. Other markets for United States photographic goods are Mexico, Philippine Islands, Brazil, Cuba, Japan, Australia, and the Argentine Republic, with Germany practically the last on the list, she supplying the most and taking the least.

SOME NOTES ON PICTORIAL PHOTOGRAPHY

It would seem that there are certain desirable qualities in pictorial work which are best defined or described by contrasting them with their opposites. One of these desiderata is "breadth," a quality of fundamental importance, yet by no means easy to describe, though an attempt may be made thus. Suppose we have a chess-board whose squares are alternately black and white. Viewing this at a picture distance, the eye would first be confused, then irritated, and finally fatigued by the constant change from black to white. (This reminds one of the effect of walking along a road with close-set palings at our side and a bright light as background.) Suppose now that we could shift all the black squares of the chess-board toward one side and the white ones to the other side. Equally forceful contrast would remain, but the cut-up, patchy, spotty, and eye-irritating effect would be eliminated.

Or we could group all the light patches into the centre while the dark patches were at the periphery. Or, again, they could be arranged into two more or less triangular masses or groups. Indeed, there are many ways in which the darks could be grouped more or less together and the lights also similarly massed. Such arrangements would possess the quality of breadth, but in a crude form. Suppose, now, that instead of only black and white our patches ranged from black to white through many intermediate steps of gray. By grouping together the darker patches in large masses and similarly keeping the lighter patches together, we should still have the valuable quality of breadth, but with the interest of variety added. We may, then, say that the fundamental idea of a broad arrangement of light and shade is grouping similar light and shade qualities together in a few large masses.

Having got fairly clear in mind the meaning of breadth, it will be an excellent bit of picture-making training to examine a number of engravings after good artists (*e. g.*, Turner, Rembrandt, Constable, Gainsborough, Morland, or Creswick), with this one idea only in mind. Holding an engraving of moderate size at arm's length, view it through eye-lids nearly closed, *i. e.*, so close that all detail is lost and only masses of light and shade are seen. Pay no attention to subject, detail, or title, but think only of the shapes and arrangements of the large masses of light and of shade. It is quite a good plan to look at each picture held upside down, noting that

apart from the subject the massing of light and shade is simple, broad, and decorative. Similarly, in one's camera work it is an excellent plan to view natural subjects through nearly closed eyes, and also to put the ground glass image slightly out of focus, so that one may get rid of detail for the moment, and so think only of light and shade.

ARTIFICIAL LIGHT IN STUDIO

THAT artificial light will be the studio light of the future is open to a great deal of discussion. There is logic pro and con. There are men today who use artificial light exclusively, but mainly they do so because they have no access to daylight. Others there are who aver that in time to come the photographer will depend on some source of artificial light altogether and forget that there is such a thing as sun and sky and atmosphere. But, however we may be minded, there is absolutely no argument to the fact that artificial light is of the very greatest utility in the studio, even in the best-equipped skylighted affair. The proud boast of the photographer, which he has been booming these many years, "We take photographs regardless of the weather," is, at best, a mere bit braggadocio meant to keep the hard-earned clients from staying away, come a streak of bad weather. The secrets of the dark-room, which seldom penetrate to the customers' ears, could tell of many a plate unexposed on such days, and the receptionist's mild fibbing, "the negatives were all spoilt because you moved, and would you please sit again," helps out the little delusion of the "photographs in all weathers" boast.

But that boast is no longer a boast when the studio is equipped, as all modern studios are or should be, with some form of artificial light which can be turned on at a second's notice and do all the daylight can do and often do it better, or at least more conveniently.

The only question is—what particular light to use. There is quite a choice nowadays and each has its particular adherents. Right at this moment and in the scope of this little story we have to do with a light that is not now new and yet it is only just beginning to be really appreciated by photographers. We refer to the Cooper Hewitt Lamp, the lamp that is sometimes referred to as the perfect substitute for daylight for all photographic purposes. We remember, in the early days of the lamp, it was often a disputed point whether the late George Rockwood or Pirie MacDonald, photographer-of-men only, was the first to use the Cooper Hewitt tubes for portrait purposes. Mr. Rockwood was enthusiastic about the light, but Pirie MacDonald always had a series of tubes in use in his downtown studio and has six big ones now in daily use in his Fifth Avenue place. There alone we have weighty arguments for the use of the Cooper Hewitt Lamp; but when their experience is reinforced by such eminent artists as Benjamin T. Falk, William H. Rau, Curtis Bell, and many others who have demonstrated beyond a doubt that fully as good results can be obtained with this light as with daylight, no one can gainsay it. Of course, the use of this light must be directed by brains.

Where quick results are wanted as in postal-card galleries—why not relegate the word "galleries" to these postal-card factories and use the word "studios," where the better-class work is made—or in engraving plants, the Cooper Hewitt Lamp is at its highest efficiency; but that does not mean that its use is restricted to such forms of work. If it were, men like the above who need the best and most reliable types of artificial light would not be using it.

One important recommendation of the lamp is the great diffusion of the light. This enables the operator to get a roundness or modelling not possible with arcs. Instead of a point, the lamp is a long bar of light, and the diffusion this ensures approximates closely to daylight, without the loss of power due to the intervention of diffusers. A reflector other than those which form part of the outfit is quite unnecessary. The light is absolutely steady and of high actinic quality—its richness in chemical rays making it three times as efficient as any other light for photographic purposes. Yet the lamp only consumes one-tenth the current required by a well-known but antiquated arc lamp having a similar purpose, and the heat associated with arc lamps is almost entirely eliminated. Further, there is no risk of fire, the incandescent mercury vapor being absolutely enclosed.

The cost of operating such an outfit is very moderate in itself, and the advantages obtained more than offset the total cost; so that it can be truly said that it is actually cheaper than daylight.

The photographers' harvest time unfortunately comes during the shortest and darkest days. With the Cooper Hewitt lamp not only can every day be made a full day, but hours for sittings can be lengthened to any desired extent. Consider for a moment what it would mean for you to be able to "keep open evenings," or even until 6 P.M., during the rush before the holidays.

Those who attended the National Convention at Philadelphia last July had an opportunity of judging for themselves the capabilities of this lamp and seeing it in all modernized forms. All colors now come out correctly under the Cooper Hewitt "Light Transformer." To those who did not have the opportunity, we can only suggest that they get in touch with the makers and learn of its manifold advantages. The chances are that some of you who read this got caught at Christmas on dull days and had to put forth the old excuse given above. Be there with the "goods" next year and work your camera room to the limit. It will be more money in your pocket and greater satisfaction to your customers, for the statement made at the beginning, that the Cooper Hewitt Lamp affords a perfect substitute for daylight for all photographic purposes, is mighty near the truth.

There is a gold mine in copying and enlarging old portraits—when done right. Cover your lens with black chiffon for two-fifths of the exposure.—Doty.

Look at your specimens and ask yourself, "Would they make me buy?"

Papier Mineral should be applied damp to the back of negatives. If seccotine is lightly applied to the edges of the damp sheet to hold it securely in position it will dry taut and hard.

The simplest way to wash a single negative is to place it on some support smaller than itself underneath the tap, and let a gentle stream of water flow over the surface for half an hour.

PRACTICAL NOTES FROM LONDON

BY F. C. LAMBERT

TELEPHOTOGRAPHY contains various surprises for the beginner, who was specially catered for by Mr. E. Marriage at the Royal Photographic Society not long ago. Among other things, he must expect to find that when dealing with architectural subjects with a telephoto lens he will not get his upright lines parallel and vertical by the familiar and simple expedient of swinging the camera back into the vertical position when the camera is tilted. His eye must be employed to discover a compromise position. Again, when dealing with distant objects, he must not follow the usual *f*. number rule as regards exposure. Correct exposure will prove to be something less than such a simple calculation would indicate. But in the case of night work a comparatively longer exposure will be found necessary. The focal length of the negative lens may desirably be rather more than half that of the positive lens. Thus a 5-inch negative would be suitable for use with an 8-inch positive lens.

The question of correct exposure always looms large in negative making. "A properly exposed plate will develop itself" is a common saying among experienced workers. In telephoto work one starts off with the notion that exposure varies directly as the square of the magnification. To ascertain magnification is thus the initial step. We can seek this end in three ways, for each of which something may be said. First we may compare by actual measurement on the ground glass the linear size of the image given by the positive lens, and by this combined with the negative element. Next we divide the distance of the negative lens from the ground glass (often by a misleading use of words called the "camera extension") by the focal length of the negative lens, and to the quotient thus obtained add one. Thirdly, we divide the focal length of the negative lens by the "optical interval"—a quantity sometimes engraved on the lens tube. Mr. C. F. Lane-Davis, in his excellent little manual, *Telephotography*, says: "Exposure increases theoretically as the square of the magnification, but for distant subjects taken without a color screen this will generally tend to over-exposure. A safe working rule is that exposure should be increased to one-half the square of the magnification."

The newest thing in cinematography is the Proski eroscope cinematograph camera, the invention of Mr. Proszynski. The movement of the film is brought about by a compressed air engine, giving complete uniformity of motion yet regulatable so as to make 10, 15, or 20 exposures per second. The air is pumped into four cylinders tested to 4000 pounds by a 400 pound hand-pump. The feed is regulated to a constant 40 pound by means of an automatic governor and steadied by a gyroscope, so that the operator can hold the camera quite steady during its automatic action or point it in any direction and alter the exposure speed. It may be placed on a stand so that the photographer himself can walk into the field of view and be thus included in the picture. I recently attended a demonstration (at Cherry-Kearton (Ltd.), 11 Haymarket), and saw some splendid natural history

pictures obtained by Mr. Kearton in Yellowstone Park and elsewhere.

A further development in cinematograph cameras is to be put on the market very shortly at a popular price. This simplified form is actuated by hand. A new form of very small but powerful electric bulb lamp is to be introduced at the same time. This enables the taking camera to be also used as a projection apparatus for amateurs' home use. Although the picture is only about $\frac{1}{4}$ inch, yet it bears magnification up to $5\frac{1}{2}$ feet. The smallness of the negative enables as many exposures to be made on a film one foot in length as are taken on 100 feet of ordinary cine-film. The cost is thus proportionately reduced, *e. g.*, in the one case 1 *s.* per foot (25 cents), as against the ordinary price of 40 *s.* ($10) per 100 feet, the projector lamp costing about 1 *d.* per hour. With this lamp there is no danger of the film taking fire, even when the exhibiting machine is stopped in action.

At the L. and P. meeting Mr. E. Hill gave a brief talk about flashlight photography, and demonstrated its application by taking a group of the assembled members. He said the actual duration of the flash given by the powder and apparatus used only lasted about $\frac{1}{120}$ second, although, owing to the persistence of vision, it seemed to occupy a great deal longer than that. As a rough guide, 4 grams or, say, 1 dram of powder burned at ten yards distance from the object, a 350 H. and D. speed plate and a lens working at 6.8 would give satisfactory exposure. Although Davy in 1808 discovered magnesium, it was not until about 1860, when Roscoe pointed out the actinic value of the light produced by its combustion, that it attracted the attention of photographers. And about five years later Professor Piazzi Smyth used it for photographing the interior of the Great Pyramid. One grain of magnesium completely "combusted" is estimated to be equivalent to about 15,000 standard candles.

THE CARE OF THE NEGATIVE-FIXING BATH

BY A. J. JARMAN

LITTLE attention is paid as a rule to the care of the negative-fixing baths, all the while it seems to fix all right, it is worked to the limit. How many times it has been observed that when the fixing of a negative is somewhat slow that there is a peculiar stain all over the surface, with an added tint of the prismatic colors intermingled. Under these conditions the fixing not only takes place, but a roughened surface occurs that will not wipe off with wetted cotton. More than this, if one enlargement is made from such a negative, the resultant print presents such a coarseness throughout due to magnifying the gritted sulphur deposit that is embedded in the gelatine film. This defect is brought about by decomposition of both the hyposulphite of soda and the chrome alum that is employed in the fixing bath to harden the film. When sulphate of soda is employed this is apt to become decomposed by the addition of sulphuric acid, sulphate of soda being formed and sulphurous acid gas liberated, which, being absorbed by the water present, exists as sulphurous acid.

The writer has always found that the

addition of sulphurous acid can be used with advantage in place of the sulphuric acid. Sulphite of soda alone acts as a very mild fixing agent, quite unsuited when used alone in solution to employ as a fixing agent in the ordinary way. Whenever a fixing bath reaches the stage so that a muddy deposit exists, it should be rejected at once, and a new, clean bath substituted. It is always a good plan to make up the fixing bath in a large wide-mouthed bottle, and, after a good shaking, allow it to stand several hours before pouring it into the fixing box or boxes, either 8 x 10 or 11 x 14, because the condition of the solution can then be seen and any deposit caused by the decomposition of any of the salts can be prevented from admixture with the working bath.

The small amount of trouble involved in the careful preparation in the first place will insure clean, brilliant negatives until exhausted.

It does not appear to be generally known that the fixing bath for developed paper prints is capable of yielding prints of great beauty by adding a small quantity of chloride of gold prepared as follows, and added to the bath from time to time.

Chloride of gold	15 grains
Distilled water	8 ounces

When dissolved pour it into the following solution:

Hyposulphite of soda	4 ounces
Water	12 ounces

This will form a double salt of hyposulphite of gold and sodium, which can be added to the fixing bath in small quantities as required.

This stock of gold solution must be kept away from bright daylight. It will be found that if a moderate quantity be made up that it is better kept in an amber-colored bottle, preferably a wide-mouthed one.

When making this preparation be careful not to reverse the order of mixing, add the gold solution to the hyposulphite—the reason for this being, that when the gold solution is added, hyposulphite of gold is instantly formed, this in turn being dissolved in the hyposulphite, thus forming the double salt in solution best suited for the purpose described.

HOW TO PHOTOGRAPH ON WOOD FOR PYROGRAPHY

BY "DELTA"

PHOTOGRAPHING upon wood may appear to many persons a somewhat difficult operation. Now, as a matter of fact, it is extremely simple, so simple that it can be performed by any person, even without a knowledge of the general line of photography.

It is well known to wood engravers that excellent photographs can be made and are carried out by them to secure an exact woodcut in line, especially of machinery and mechanical appliances.

A photograph forms the best guide for accuracy to the wood engraver—it will also do the same for the artist in pyrography. A test or two may have to be made, when it will be found that with care success will attend the first trial. The *facing* mixture is made up as follows:

Albumen of one fresh egg—	
Distilled water	3 ounces
Common salt (chloride of sodium) .	10 grains

Dissolve the salt in the distilled water, add this to the albumen, stir

the mixture into a good froth for about five minutes, allow this to stand for about twelve hours. If mixed right it will be ready in the morning.

The mixture must now be filtered into a clean tumbler through a wet, folded piece of cheese-cloth, when it will then be ready for use.

Preparing the Wood

The surface of the wood must now be coated with the above mixture, which can be done either with a flat camel's hair brush, or better still by dipping a tuft of clean absorbent cotton into the mixture, then rubbing lightly and evenly all over the surface of the wood, use the solution sparingly. Take care that every part is evenly covered, then dry quickly, *not* by heat, use a current of dry air from a fan, or place it in the draught from a partly opened window. A number of boards can be prepared and dried, because they will keep in good condition for some time.

Sensitizing the Wood

Make up the following mixture; keep it in an amber-colored bottle:

Nitrate of silver	120 grains
Distilled water	4 ounces
Citric acid (crystals)	20 grains

Dissolve these salts together in a glass graduate. As soon as this is complete the surface of the board is made sensitive to light by wiping the silver solution sparingly all over the surface, either with a flat camel's hair brush set in rubber (not in metal because this would throw down the silver from the solution in a metallic state, and spoil both the board and the solution), or a piece of Canton cotton may be tied over a strip of glass about one inch and a half wide and used as a flat mop. This operation must be carried out under a small gas-jet giving not over 16-candle power and dried away from daylight. When dry, place it upon an ordinary negative or one it is desired to copy, in an ordinary printing frame; or the negative and sensitized board may be held in place by the use of half a dozen photographic clips and exposed for five minutes to sunlight, or for twenty to thirty minutes in the shade, as inspection is not necessary, the imprint in perfect outline only being the aim. The board will be found to have a perfect print upon it. All that is necessary after this is to fix the image by wiping over the surface the following mixture with a piece of absorbent cotton very lightly:

Hyposulphite of soda	2 ounces
Water	12 ounces
Alcohol	3 ounces

Wood alcohol will answer; as soon as this is done, the surface must be washed by pouring over it a mixture of alcohol and water—two ounces of alcohol to ten of water. Blot off with a clean blotter, dry by a fan or draught. The photograph can then be traced with the pyro pen.

Should it be desired to have the surface white or nearly so, to make the photograph more bold, and present the appearance of a print such as is used by the wood engraver upon a boxwood block, then a small quantity of zinc white (oxide of zinc), must be mixed with the albumen solution—a very small quantity is all that is necessary. In this case the whitened mixture must be carefully rubbed in with a small folded piece of chamois leather.

PERSONAL APPEARANCE

We have had a good many notes about stained fingers lately, most of which have emanated from principals, who, being literally in constant touch with their sitters, are alive to the necessity of keeping their hands fairly clean, in order that they may not cause a shudder on the part of the sitter when it becomes necessary to adjust the folds of light drapery. In some cases customers attribute the stain to excessive cigarette smoking, but in the majority of cases they have a horrid dread that it will "come off" and stain their fine raiment. The assistant, we fear, does not realize this, and when he is called in to officiate "in the absence of the principal" the sitter sometimes not only has the feeling that he is being put off with a substitute, but an unclean one at that. The unhappy assistant has probably become reconciled to his "trade mark," because he has all the dirty work to do, and considers the stains as unavoidable. In practice it will be found that the worst stains result from the alternate use of pyro soda and amidol developers—a combination very frequently met with. We have found in such cases that if a dish or basin of plain or slightly acid water be kept in the sink, and the finger tips dabbled in it immediately they are taken out of the developer, the tendency to stain is minimized. After using pyro the fingers should be washed with hot water and soap, using a stiff nail-brush. Special care should be exercised in mixing the amidol developer; as if amidol, unmixed with sulphite, gets upon the skin, an almost indelible red stain is produced. For this reason we have found it desirable to dip the fingers into sulphite solution before touching the cork of the amidol bottle or the spoon used for measuring. It may seem absurd to suggest the use of finger-stalls to a hard-working photographer, but we have lately seen some which were a great advance on the old sort. They are made for sorting papers, and are more like elongated thimbles. Some were used for constant dark-room work for months, and showed no signs of wear.

The dark-room apron is usually a most dilapidated affair, and is rarely made of waterproof material. There is really no reason for this, as a good waterproof sheeting can be bought for about forty cents a yard. It is better not to hem it, the only making required being the fixing of tapes for apron strings.

OVERTIME

One of the commonest causes of discontent among photographic employees is the question of overtime, and one, unfortunately, concerning which there is no definite trade custom to act as a general guide. Some employers pay overtime at Christmas and other busy seasons, while others consider that they have done well by their assistants in keeping them all on during slack periods instead of reducing the staff, as others do. It is difficult to lay down a general rule, for employers and employed are each of many classes, there being in each every degree, from rapacity to generosity. If each class could be made to work together all would be well, but we frequently find a grasping

employer taking all he can get from a willing assistant and rewarding him by grumbling, lest he should think too well of himself; while, on the other hand, we have the greedy assistant, whose main object is to get the maximum pay with the minimum exertion. In many photographic businesses the work is of a somewhat intermittent character, and there are times when, to say the least, there is little to show for it when pay-day comes round. In such cases it would only seem fair for an assistant cheerfully to work a reasonable amount of overtime when the pressure of business demands it, provided always that the balance is fairly maintained. There is no condition more irksome in business than when one or both parties demand their pound of flesh, for no matter how justly this is awarded, it seldom gives satisfaction on either side. To assistants, then, we would say: Bear your share in the ups and downs of business; do not wait to be asked to make a special effort; and so economize time during the ordinary working hours that overtime is reduced to the minimum. To employers we would say: Be as generous as you can, especially in the matter of refreshments; do not expect your people to work for three or four hours after closing time with empty stomachs and keep smiling over it. An annual supper in the winter, or excursion in the summer, has a wonderful effect in helping everyone in a business to pull together, and in photography, more than in almost any other occupation, perfectly harmonious working is essential to success. Our remarks necessarily do not apply to trade houses, which are carried on more or less under factory conditions. These will probably find that a system of careful timekeeping and payment for overtime will be more successful. The average photographer will do well to cultivate the "happy family" idea. "Each for all and all for each." We have perhaps said as much of employers as of assistants, but it is necessary to recognize that both have their rights and responsibilities. The assistant generally knows when he has a bad master, but often fails to appreciate a good one.

A. A. Richardson, of Bemidji, Minn., sets an example which many of our professional photographers will do well to follow. He has started a little publication of his own, which he calls *Rich Times*, and adapted the appropriate motto of "Get Rich." We are reprinting the following good advice from the first number.

"More pictures and less whisky!"—you'll feel better and so will your friends to whom you send or show the photos.

"Never exaggerate your faults," says the sage brush sage, "your friends will attend to that."

Carry some photos with you to show, and you'll often be the center of an interested crowd.

It's better to say a good word about a bad fellow, than a bad word about a good fellow.

Pictures of a laboring man taken at his work are most natural and most interesting to friends.

The worst kicker anywhere is generally the fellow who needs kicking the hardest and most frequently.

Retouching by Artificial Light. I have found the following answer very well: I substitute a piece of opal glass in place of the ground glass, and use a 32 candle-power electric lamp, which I place quite close to the opal. This I find gives a good, even light, and one which does not try the eyes unduly. The negative retouched by artificial light in this way is nearly as good as if it had been retouched in daylight. —G. H. Salmon, in *British Journal of Photography*.

TRADE NOTES AND NEWS

WHETHER or not a majority of the profession will be induced to take up with a printing-out paper, the fact remains that Zelta prints are superior to those made by any developing-out process.

We have seen a series of Zelta prints ranging in tone from red chalk, through all the delicate intermediate tones of sepia, brown, olive, and warm black, to a rich, lustrous blue black, not one of which could be approached by a developing-out paper print. The two methods are so entirely different in nature that there is no comparison in the results.

As the Eastman Company have claimed in their advertising of this new product, it is a paper for the man who wishes to make his work distinctive—to express his individuality in the texture, tone, and general quality of the print he delivers, as well as his method of posing and lighting the subject.

Zelta will appeal to the best trade of the high-class studio, where quality is the one consideration. It is a matte-surface, ready-sensitized albumen paper of exceptionally good keeping quality and is made in four grades. It is simple and certain in manipulation, any desired tone being readily secured and reproduced at will.

Make up a sample case of Zelta prints and a set of studio samples and let the customer be the judge.

CHEMICAL STRENGTH.—It may seem rather strange to see an advertisement in which a firm selling chemicals advises the customer to use less of a certain article than that of a competitor's, but such is the case with the Eastman tested carbonate of soda. This chemical is so pure that there is danger of using too much of it if a formula is followed where E. K. tested carbonate is not specified.

In this danger lies also the economy of using this soda, for, as only one-half the amount will give the proper result, it is plainly seen that there is a great saving to the photographer who uses the pure E. K. tested carbonate.

Eastman tested chemicals are the result of a desire on the part of the manufacturer to safeguard the results of the photographer, for on these results must rest the reputation of the goods manufactured.

Get acquainted with the mark of chemical certainty—the E. K. tested chemical seal.

FAST PLATES.—The principal objection to a fast plate has been the fact that it was not possible to get great speed and retain the quality so essential to the plate used for portraiture. Fast plates would not give a finely grained deposit of silver, and the steps of gradation were too sharp—too much on the soot and chalk order—to be used by the portrait photographer. These objections have all been overcome by one of the famous Seed plate emulsions, the result being the plate known as the Seed Gilt Edge 30. It is a plate of gilt-edge quality, as the name implies, and if you wish proof of its speed have one of the Seed demonstrators convince you. Seed Gilt Edge 30 is the ideal plate for dark winter days.

ON January 21, the first regular meeting for 1913 of the Professional Photographers' Club of New York opened with an electric-light demonstration by Elias Goldensky, of Philadelphia. At 8 P.M., the meeting-room at Terrace Garden was crowded with photographers from all parts of Greater New York to witness Mr. Goldensky operate his new invention for Tungsten light control. It was the first public appearance of this wonderful light and enthusiasm ran high.

The standard held about thirty lamps ranging from 40 watts to 150 watts. By simply pressing the camera bulb the current was passed from 110 to 220 volts, and the lamps burned with a brilliancy that made portrait exposures in one-quarter of a second. Many negatives were made in the different styles of lighting and the results were beautiful.

During the regular meeting that followed the demonstration, Mr. Goldensky was unanimously elected an honorary member of the organization.

The meeting adjourned at 11 P.M., after which two large groups were made of the entire assemblage.

ONE hundred and sixty-three of the New England photographers attending the Eastman School held in Boston enjoyed a dinner at Cafe Bova, 96 Arch Street, at 6 P.M., on Wednesday evening January 29, and after making merry for nearly two hours adjourned to attend the evening session.

It was a gathering of good fellows, and an occasion long to be remembered. "Joxie" was the toastmaster and spoke in his usual happy vein.

Songs and stories by two good entertainers, also remarks by several prominent in the profession, added much to the enjoyment of the evening.

IT will be gratifying to the photographic trade to note the public acknowledgement made by Mr. C. M. Keys in his interesting article in *World's Work*, for February, entitled, "The New Democracy of Business," of the conspicuous services which MR. GEORGE EASTMAN has rendered photography on both sides of the Atlantic. Mr. Eastman is truthfully referred to in this notable paper as "A Master of Organization and Selling Methods." An excellent picture of Mr. Eastman accompanies the article.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

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THE EDITORS' TABLE

WITH this number of WILSON'S PHOTOGRAPHIC MAGAZINE, MR. THOMAS COKE WATKINS becomes Editor and Mrs. Edward L. Wilson Associate. Mr. T. Dixon Tennant is no longer connected with WILSON'S publication, and all mail, subscriptions, manuscripts, money, and other communications connected with the business of Edward L. Wilson should, in future, be addressed to the Edward L. Wilson Company, Inc.

THE Editors are determined that this magazine shall continue to fulfil its purpose —increasing and extending its usefulness for the practical photographer. We have already in hand several new series of articles which will add freshness and vigor to the contents, and which are in the line of advancement; but, to make the best progress, we need the coöperation of our readers. Will you think about it and suggest:

Some plan for a single feature, or article, or series of articles, or subject, which will add to the interest or helpfulness of this magazine.

How it can be made more attractive and valuable.

We want to hear what *you* think of what we print.

We need live and practical suggestions most of all, but are not unaware of the value of criticism; write us anything that may help to make the magazine better.

This friendly and interested service cannot, we know, be secured by offer of payment; but for any suggestion we use we shall return what we believe will be an acceptable honorarium.

THE photographic world has lost a sincere friend in the passing of JAMES FOSTER HATHAWAY, president and founder of the Sprague-Hathaway Company, on January 13, at the age of sixty-five at his home in West Somerville, Mass.—a remarkable instance of the self-made man who rose from lowly beginnings to the presidency of a large business which he founded and developed by his untiring industry.

It may not be generally known that Mr. Hathaway became interested some years ago in the possibilities of photographic conventions—the first New England convention was largely made possible by the liberality and hard work of both Mr. Hathaway and his close friend, the late Benjamin French, of Boston—and this convention, as the result of their untiring energy, was the forerunner of the National Convention and the State Conventions which followed as a matter of course. He always felt that the yearly meeting of the photographers, this getting together and talking over ideas, was conducive to the greatest good for the greatest number, and a number of individual photographers whose names now stand high among their fellows can ascribe at least a portion of their success to the personal interest of this quiet, energetic man who reached down deeply into his own pocket to help them when financial assistance was necessary.

During the past few years the business which he organized has not required his personal attention in its details and he has travelled extensively both in this country and abroad, usually spending his winters in Florida. He had an unusually large circle of personal and business friends, the inevitable result of square dealing and kindly interest in every man with whom he came in contact either in business or otherwise.

By E. O. Hoppé

WILSON'S PHOTOGRAPHIC MAGAZINE

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A PROFITABLE BRANCH OF ARCHITECTURAL PHOTOGRAPHY

BY W. I. LINCOLN ADAMS.

PROFESSIONAL photographers will find a very profitable employment for their cameras by directing them to a branch of Architectural Photography which I wish to call to their attention. Architects are liberal purchasers, at good prices, of unmounted prints showing architectural detail, ornament and decoration. They do not care so much for photographs of complete buildings as they do for sections of buildings, pictures of doorways, arches, ornamental cornices and other details which they can use in their own designs.

Mr. C. D. Arnold, in the early 90's and before he became the official photographer of the Columbian Exposition at Chicago in 1893, made a trip to Europe with his camera for the express purpose of obtaining such architectural photographs for the architects of America. He took with him a 6½ x 8½ plate camera, fitted with an excellent rapid rectilinear lens and a good supply of dry plates. He made a tour of the Cathedral towns of France, and visited the old chateaus of Touraine, photographing these picturesque and historical old edifices, and making a large collection of valuable negatives. He did not entirely overlook the notable public buildings of Paris and the other continental cities; but he found that the readiest market for his prints, in the architectural world, was for the details to which I have referred above.

I well remember looking through his collection, on his return from Europe, and admiring the technical skill with which he had made his negatives and prints. His exposures were all timed, so that he could develop slowly, and thus secure the greatest amount of detail. He used plates of moderate sensitiveness, which resulted in strong, snappy negatives, and made possible brilliant prints; and his prints were made on smooth-surfaced paper to further bring out the greatest detail. They were the kind of photographs which make the best reproductions, and were just the kind which the professional architects of New York and the other American cities were looking for. Mr. Arnold made up an album of sample prints, and called in person on the architects of the great cities. In almost every instance he took liberal orders at good prices.

It was very largely on account of his reputation as an expert photographer of architectural subjects that he later received the appointment as official photographer of the great World's Fair at Chicago. What Mr. Arnold did in the 90's, the modern photographer can do to-day. There is still an excellent demand for unmounted prints of architectural subjects by the architects of

America, and at even better prices than they paid Mr. Arnold in the early 90's. So far as I know there are few professional photographers who are covering this profitable field. Some amateurs are making architectural photographs which find their way into the offices of architects; but, as a rule, they are made from small film negatives, and are enlarged on matt surfaced papers, and are not so saleable, nor do they bring such high prices as the smooth surface prints from dry negatives.

I suggest this field for the professional particularly during the spring and summer months, when he may not be very busy in his studio. It will give him a pleasant outing, as well as profitable employment, and will not interfere with his regular studio practice. Landscape professionals can of course turn their cameras to architectural subjects at almost any time, and it is for them one of the most profitable branches of their work; but it is surprising how few professionals are giving much attention to this very profitable branch of photographic work.

The best field for architectural subjects such as American architects prefer, is, of course, the European cities; but there are many opportunities for making good architectural negatives in America. There are architects all over the country who have not seen many of our more notable buildings, such as the official buildings in Washington, particularly the great National Library, and the impressive public buildings of New York, Chicago and the other great cities of America.

OLD AND NEW METHODS OF SULPHUR TONING

BY L. TENNANT-WOODS.

THE toning of bromide and gaslight prints by means of free sulphur compounds is a branch of work which is not by any means new. The hypo-alum toner is one of the oldest, but the more modern method of bleaching first and then "sulphiding" has to some extent displaced the single bath toner. Interest in the subject, however, has been recently revived, the hypo-alum bath is being more widely used and a newer form of bath in the shape of a liver of sulphur solution has been put forward. There is a distinct family likeness between the two—hypo-alum and liver of sulphur—the latter being perhaps the cheaper and the more easy to "ring the changes" with.

The hypo-alum process is fairly well known to the older hands, but a few facts may be of interest before the latest and perhaps better method is described. The hypo-alum bath has appeared in many forms and various modifications have been advocated, but it is doubtful if the original bath has been improved upon. The following, I believe, is the original formula, at any rate it is the one we all used in the year 1886: Hyposulphite of soda 10 oz.; white powdered alum 1 oz.; boiling water 70 ozs. The best of the modified formulae is: Hypo 2½ ozs.; powdered alum ½ oz.; granulated sugar ½ oz.; boiling water 20 ozs. The addition of sugar does no harm, and with some papers certainly gives an improved result. The hypo is dissolved first and the alum added slowly. When all is dissolved the solution should be something like milk, it will also be turbid but it must not be filtered. The bath may be used over and over again, in fact the older and more used it is the better the tones. When new it reduces the prints a little, but as it grows old this tendency disappears.

The bath acts very slowly when cold, and in such a state prints may have to remain therein for a day or more until they tone to a good sepia. When made hot, however, it tones very quickly. There are two ways of using the bath. One is to immerse the prints in the cold solution and then to warm it very

gradually until the prints are toned. They are then allowed to remain in the bath until it is cold again, when they are washed and dried in the usual manner.

The alternative method of toning is to divide the bath into two equal parts. One-half must be cold and the other half heated to about 150 degrees Fahr. The prints to be toned sepia are immersed in the cold solution for about ten minutes and then transferred direct to the hot one, where they tone in from twenty to forty minutes according to character of paper and print. Some papers permit of the direct transference from the toner to cold water for washing, but some are prone of blistering if subjected to sudden changes of temperature. In cases where the prints are wanted quickly and the cooling cannot be waited for—in the case of blistering papers—the prints may be transferred to a tepid solution of alum 2 ozs.; water 70 ozs. and then to the washing water. The precise method, however, will depend largely upon the paper used.

The latest method of toning by means of free sulphur, namely by using the common—the commoner the better—liver of sulphur, bids fair to become even more popular than the hypo-alum process. Although possibly new to the majority of workers, particularly amateurs, the process is not really a new invention. It has been known for a year or two to many commercial workers who have used it when toning large and small quantities of prints, because of its simplicity, convenience and cheapness. The process may be briefly outlined as follows: The print is developed, fixed and rinsed as usual, hardened in formaline, then placed in the liver of sulphur solution (made warm, not hot) until of the desired tone, and finally washed.

Liver of sulphur is known also as sulphurated potash and potassium sulphide, but in some places it is advisable to ask for liver of sulphur as less is charged for it than if purchased under any other name. The exact strength does not appear to matter very much, but an average bath may be said to consist of one dram dissolved in twenty ounces of water. The addition of a few drops of ammonia is an improvement with some samples but it is not always necessary. The addition of a few grains of Schlippe's salt tends to give a purplish tint to the picture, but as with most toners the exact colour of the finished result depends largely upon the exposure and development of the original print as well as the make of paper used.

Success depends very largely upon the hardening bath used before toning, a bath which is absolutely necessary because of the softening action of the sulphur upon the gelatine film. Alum as a hardener is not suitable because it does not agree very well with the toning bath, should any find its way therein on the print. Formaline is the best hardner because the print may not only be transferred from the hypo bath without thorough washing—a slight rinse to take off the bulk of it being sufficient—but there is no need whatever to wash it between hardening and toning, the print being placed into the toner exactly as it comes from the hardener. The usual strength of one ounce of formaline in twenty ounces of water is a suitable one.

Like the hypo-alum bath the sulphur toner works very slowly when cold, an hour or more being required to give the prints a pleasing tone; some makes of papers, however, require twelve hours. Unlike the alum-hypo toner the "liver" solution must not be used hot, as in such a condition the sepia tones are not pleasing, and I have known it not to act. The proper temperature of the liver of sulphur solution for toning is 100 degrees Fahr. At or very near this temperature the bath is at its very best and in most cases will tone a black and white print to a good brown in less than ten minutes. The prints must be kept continually on the move while in the warm bath because of its rapid working; if allowed to settle or keep still the tones may be uneven and the results patchy. After toning they are washed as usual.

Although common white alum is by itself unsuitable as a hardener for prints before toning it seems to act very well

when combined with chrome alum, the combination (white alum 1 oz.; chrome alum ½ oz.; water 20 ozs.) causing the liver of sulphur to give to the prints a purple brown rather than sepia brown, a colour preferred by many workers. When, however, this combined alum bath is used it is advisable to wash the prints before and after use, a proceeding not needful when formaline is used.

This so-called new sulphur toning process will certainly be tried by many workers because of its cheapness and convenience. It must, however, be borne in mind that the more accurate the exposure, the more thorough the development, and the better the print in its black and white stage, the richer and more pleasing will the tones be, just as in the other sulphiding processes.

THE LATEST WORD ON NIGHT PHOTOGRAPHY

BY REV. F. C. LAMBERT, M.A., F.R.P.S.

A FEW days ago I was present at a meeting of the Society of Night Photographers. As their name implies, the members of this body make a specialty of taking photographs at night, either by the aid of such artificial light as street lamps, inside theatres, etc., or in the country by moon or evening sky light; but they do not concern themselves, at any rate to any appreciable extent, with flash-light, though perhaps something of that kind may come a little later on as an aid to securing some special effects. One's first thought is that after a street scene and a moon-lit landscape had been attempted there would be little left to afford further interest, but this is far from being the case. The Society has been holding monthly meetings during the six months or so at the winter end of the year for some years now, and the interest and enthusiasm is as keen as ever. The society includes practically all who have achieved any noteworthy success in this work and produced a surprising variety of subjects. The average quality of prints handed round for mutual criticism at the monthly gatherings is of first-class quality, technically and pictorially. There are no trade secrets; on the contrary, every worker seems glad to lay open all he knows as regards his own methods and experiments. Opinion on certain points vary very considerably, and equally good work is produced by methods widely separated.

Without troubling the reader of this note with various speaker's names, I think I may be of some service to give a condensed summary of the advice advocated first by one and then another in such a form that anyone who has not previously experimented in this fascinating branch of work may, at any rate, start along the right lines. My own experiments in night work were started some twenty years ago when the quickest plates of those days would now be called ordinary, so my first exposures were quite double—perhaps treble what are now required with the rapid plates of today. I throw my own experience into the common fund.

1. First of all let it be understood that there is no royal road to success in night work. One must gather experience by personal experiment. The greatest help of all is a carefully kept notebook record of every exposure, good, bad or indifferent. This should contain the following columns: (a) Number of plate, (b) number of slide, (c) make or brand of plate and speed (d) date, (e) hour, (f) weather, especially the appearance of the sky, (g) subject and kind of lighting, (h) stop, (j) exposure, (k) developer, (l) note on result judged by print. Here is an entry: 71; 2; Imperial Sp. Rapid, H. & D. 230; Feb. 3; 9:15; clear sky after rain; Camden Station, arc lamps; F. 6; 4½ m. (minutes); paranudophenol; fair, slight under exposure,

building too dark, try 6m. (minutes). A note of this kind is an immense help when dealing with a somewhat similar subject.

2. No special apparatus is required. Any camera not too bulky to carry about may be used with a tripod, and a firm one at that, is essential. The tripod need not be either heavy, bulky or tall, but it should have points that will not slip on smooth pavements. In windy weather a big camera may bring failure through vibration. Most night workers do not exceed ¼ plate size. The inconspicuousness of smaller sizes (3½ x 2½) is an advantage in street work. But one can generally get into the doorway of a closed shop and so be out of the way and be little noticed.

3. One can use a focusing screen, or a focusing scale and finder, but in that case the finder should be larger than the usual tiny thing generally filled to hand cameras. It should be of the "brilliant" kind. There is a great deal to be said for the reflex form despite its weight and bulk. A camera with a good rise of front is all but essential for street work and buildings. A small pocket level is a desirable adjunct for setting the camera back.

4. A lens with aperture less than F. 8 is a serious handicap on account of length of exposure it requires, but lots of first-class work has been done with F. 8 and well lit subjects. Still if funds will stretch to a lens with F. 6 or F. 5.6, this means halving F. 8 exposures and F. 4 again halves those at F. 5.6, or quarters those at F. 8. If street subjects with figures are to be attempted F. 4 or something of that kind is all but essential.

In street figure work, with a rapid plate, one can get quite good results in a well lit scene in ¼ to ½ second. Of course ¼ second is much too long for even slowly walking figures, but when people are just dawdling about, standing and chatting, etc., a quick observer can, with fair luck, watch and seize a moment when the figures are practically still for ¼ or ½ a second. This is not conjective for I have seen several excellent results. Where there is a choice one should select the lens with the fewest air spaces or free surfaces and so cut down the risk of flare, a thing to guard against with special care when one is amid a number of bright lights (lamps, etc.) Here comes in one advantage of the reflex form of camera, for one can or *should* be able to see this trouble, if present, on the focusing screen, and so spare oneself disappointment. This consideration naturally points to the urgent necessity of a good long, practical lens hood, which I advise being of the rectangular rather than the usual circular form. It is also important to see that there are no bright or reflecting surfaces in the lens, or camera. This means careful examination of the edges of the iris diaphragm leaves, the inside of the camera generally and especially that part of the camera body which comes close up to the plate holder. Smooth wood even when blocked will reflect strong light; such parts should be covered with black velvet ribbon.

5. Every worker has his own pet brand of plates but all agree in advising the quickest plate one can find. Unfortunately one can not place unlimited faith on the speed numbers found on the plate boxes. Of course the plates must be backed and properly backed too. It is a moot point as to whether, other things being equal, the ortho plate gives any advantage over the ordinary; my own fancy goes towards the ortho plate, but I do not think there is much in it either way. Hitherto most workers have laid so much stress on correct (*i. e.*, sufficient) exposure that development has not had enough attention accorded it. I was glad to find (at this meeting) that one member at least pointed out that there is quite as much need for care in developing as in exposing the plate. And as his exposures average something below the general trend and his results are above average in quality I think there is good reason why his formula may be given in extenso, *e. g.*:

A. Water 20 oz. Potass. met-bisulphite 15 gr. Potass. bromide 10 gr. Pyro ¼ oz.

B. Soda sulphite 2 oz. Soda Carbonate 2¼ ozs. Water to make 20 ozs.

For an average developer take 1 part A, 1 part B and 12 parts of water. At normal temperatures one may expect to see the image begin to appear in about 1½ minutes.

More or less water may be added as slower or quicker, softer or brighter results are desired. The beginner is more than likely to make the mistake of trying to get his night negatives something like his day negatives. This means over development and a print which is much more like day than night effect. Another likely trouble is that he will go on and go on hoping to see shadow detail coming up. One thing we all learn by experience is that often we may in the dim light of the developing room see no shadow-detail. Yet when the exposure has been fairly right and the plate is fixed and dried we shall see some shadow detail when the plate is laid film side down on a sheet of white paper. Moreover if the plate has not been seriously over-developed we shall find this shadow-detail more evident in the print than was expected. In other words, delicate detail will print all right if we do not swamp it by over-printing. My own personal opinion as regards the above formula is that it is quite good, except that I think the inclusion of the bromide is a mistake. It is now pretty generally known that as regards the rendering of shadow detail, the effect of bromide is nil if the plate be developed as far as prolonged development will take it, but short of that its tendency is to hold back shadow detail. Pyro ammonia without bromide or some equivalent is almost sure to give fog but for some years now past, I have discarded the use of bromide with the carbonate alkalis and get no fogs, or at any rate, no fog that I can see. One point in favor of pyro soda is that the plate loses little or nothing in the fixing bath, and another is that the slight yellowish tinge of the image makes the thinest parts tell in the printing, and especially when using gas for bromide enlarging, or contact printing with gas-light papers.

At the same time I strongly favor metol for this work because of its character of bringing out shadow detail almost as soon as the high light and also general tendency to give soft printing negatives unless development is prolonged, when it will give ample contrast despite the general idea that one cannot get vigorous density with it. Here is a formula that I have used.

Soda Carbonate 1 oz. Soda Sulphite 1 oz. Water to make 20 ozs. When the solids are dissolved let the bottle stand at rest for 12 hours or so and then carefully decant or filter off the clear part, say 19 ozs. To this add 20 grs. of metol (*no* bromide). This is used as a one-solution developer. As night negatives are for the most part thin or thinish, there is extra reason for guarding against dust particles. When setting the plates to dry they should be well swabbed with water and cotton wool.

The reader must please understand that various quite likely accompanying conditions may require considerable modifications. For instance, a freshly fallen snow cover will cut down the exposure to nearly one-half, or say reduce in the proportion of 10 minutes to 6 or 7 minutes for street work and in large open spaces bringing 10 down to say 5 minutes. Wet pavements in like manner acting as reflectors reduce exposure by ten or twenty per cent. according as the wet ground occupies much or little of the nearer parts of the scene. On the other hand, near dark objects will often quite double or treble the exposures according to their nearness, their darkness and the importance of their showing some suggestion of detail.

Again, a white-washed building will not require more than half that of an ordinary stone or brick building. Light clouds in the sky help a little, while a yellow, foggy atmosphere increases exposure very considerably.

6. Finally a word about exposure. This is the most difficult part of all to put into words because one cannot say so many lamps, so much sky light, so much reflection from wet sheets or snow, etc. The only thing one can do is to give a suggestive table. The worker

must acquire a little personal experience, which when carefully recorded in the note book *very* soon gives a guiding basis.

Table of Night Exposures

Assumed conditions. Two hours after sunset. Plate speed, H. & D. 200. Watkins, 295. Wynne, 110.

	F. 4	F. 5.6	F. 8
Figures standing in strong electric light...	¼ sec.	½ sec.	1 sec.
Figures standing, strong incandescent gaslight .	½ sec.	1 sec.	2 sec.
Shop front, well lit inside and out	15 sec.	30 sec.	1 m.
Shop front, well lit outside only. No dark foreground	½ m.	1 m.	2 m.
Street corners. Squares well lit	2 m.	4 m.	8 m.
Side street. Average lighting	4 m.	8 m.	16 m.
Open spaces. Well lit....	3 m.	6 m.	12 m.
Landscape and light buildings. Full moon	8 m.	16 m.	30 m.
Illuminations	2 m.	4 m.	8 m.

It would be equally easy to find good night workers who say the above are much too short and others who say they are needlessly long. I have seen equally good results of *very* similar street subjects from negatives having where the exposures with F. 8 ranged from 3 to 20 minutes.

To sum up, I think the foregoing table gives what we may call an advisable minimum and that when in doubt give a little more exposure. It would seem that 100 per cent. over a certain practical minimum has little or no visible effect, but 20 per cent. less does make a serious difference.

In night work the old rule of "expose for the shadows" should be accompanied by develop (*i. e.*, and do *not over* develop) for the high lights.

USE OF THE CAMERA IN BOOK-ILLUSTRATION

THE camera has come to occupy a very important place in the business of manufacturing printed matter, and Mr. Robert Seaver in a recent number of *The Printing Art* tells us how this can be made profitable to the photographer with an artistic sense. So far as catalogues, technical books, books of travel, and similar publications are concerned, photographic illustration is almost universal, and it is doubtful if a better method could be devised. But until recently it has not been thought worth while to use the camera for securing illustrations for novels, books of poetry, and similar volumes. Posed photographs of scenes in a novel have been tried, but seldom with success. Two examples of this come to mind. In a novel published recently the author describes a banquet scene among society people. Several pages are devoted to a description of the banquet room, the table appointments, and in general to a vivid word-picture of the exceeding elaborateness of the affair. The illustration is a photograph of four decidedly posed people, obviously hired for the occasion, standing awkwardly and uncomfortably in an unfurnished room about a diminutive table, innocent of any appointments whatever except four empty wine-glasses.

An edition of negro folks songs and stories published not long ago contained photographic illustrations of posed groups. The negro may possess a certain amount of humor and charm and this is successfully transferred to paper when a pen-and-ink artist such as E. W. Kemble attempts it, but the subject is not always so pleasing in the relentless representation of the camera.

Photographic illustrations such as the two just described are both absurd and unpleasant. They do not illustrate, they caricature the text. Fortunately, to the credit of the publishers be it said, this sort of unreal realistic treatment of illustrations is not common. The publisher, probably realizing the utter inadequacy of such illustrations, has turned to the artist rather than to the photographer for his material. The

artist has responded with pictures more or less successful, according to the discernment, sympathy, and imagination of the artist himself. At best he can only give his own interpretation of what the author has described, and it often happens that he fails to supplement the word-picture of the author, or to corroborate the mental picture which the reader has received. When this occurs, the illustration is bound to be a failure, for whatever its artistic merit, the reader comes to regard it as a nuisance which ought to be suppressed.

An inappropriate illustration may not be considered a serious matter in the case of an ephemeral book, which amuses for an evening and is then laid aside, but it assumes more importance when the publisher has to consider the question of providing illustrative material for a set of standard books. It is the theory of Mr. Charles S. Olcott, who is with the Houghton Mifflin Company, that in illustrating books of this nature the camera can best give the atmosphere of the story by depicting the actual scenes which the author describes. If the reader can have such a photograph the text is really illustrated. Nor is such an illustration necessarily inferior art. To quote Mr. Olcott, in a recent article on the subject: "There is no more art in a paint-brush than in a lens. The art is the thought of the artist, the brush or the camera, merely the medium of expression. Though photography is often considered as merely a mechanical process, with limitations that do not admit of individual thought, it has been pretty well demonstrated, by those who have given time to the subject, that there is a great deal of flexibility about that 'mechanical process.' The photographer who handles his camera with skill and a genuine enthusiasm for his art will obtain a very different result from that of the thoughtless tourist with a kodak who presses the button and sends his film roll off to be developed, commenting afterward on his luck or the lack of it. Some years ago, a publishing house was preparing to issue a new edition of the writings of Thoreau. The head of the house and a member of his staff were in consultation about the method of illustration. It was agreed that the pictures must be true to nature, but how to get them was the problem. Artists who do book illustrating could not be expected to go into the woods and fields and make pictures which would in any way assist the text to reveal nature as Thoreau saw it. Photographs would be admirable, but where was the professional photographer to be found who would undertake to go into Thoreau's country, in sunshine and rain, in summer and winter, to catch all the phases of nature which Thoreau recorded in his journal? None but a skilful photographer, with the love of nature in his soul, and all the instincts of a born artist, could hope to accomplish such a task. While the two men pondered, a caller sat in the outer office with a large portfolio under his arm. Five years before he had read Thoreau's Journals and had taken up his residence in Concord that he might visit the scenes there described. In all seasons and all kinds of weather he had wandered through the woods and over the fields with his camera; passionately fond of nature he was no less devoted to art. To him photography was a pastime, it was not his profession. For the pure love of nature and of art, and with no thought of pecuniary gain, he had accomplished the very feat which the two business men had thought so difficult, and by a curious coincidence, he appeared at the office to exhibit the result of his work at the precise moment when its desirability was being discussed."

Following out the same idea Mr. Olcott a few years ago used his camera for illustrating the works of Mrs. Humphry Ward. In nearly all of Mrs. Ward's work, the scenes of the stories are places with which she is personally familiar. Mr. Olcott visited the places referred to in her novels, reproducing the scenery pictorially so far as possible. By this means he secured a series of photographs such as had never before been attempted, which added greatly to the beauty of the volumes and at the

same time aided the reader to enjoy and understand the author's writings in a way that would not be possible otherwise. The success of this venture decided Mr. Olcott to make similar photographic illustrations for a new edition of the novels of Sir Walter Scott. Scott is a novelist whose works lend themselves particularly well to this sort of treatment. He was the first of all the modern novelists to make a full artistic use of background and setting. Every author must have his backgrounds and often they are real. There is always something which has suggested the story. It may be an incident or scene in the author's own life, or it may be a place which he has frequently visited, but there is usually something which the author has used for a model whenever a vivid description of scenery is found in a book. The problem is to find this suggestive scene, if possible, so that the reader may know exactly what was in the author's mind when he wrote the book. When Sir Walter Scott, for instance, was writing "Marmion" he made a visit to the old ruin of Norham Castle in the north of England. A mere shell of the structure remained standing, but it suggested to the mind of the poet a great, beautiful castle, full of knights and ladies, and with all the attendant medieval pagentry. A photograph of the ruin shows what suggested the poem, while the word-picture of the castle, as it came from Scott's imagination, needs no interpretation, and any attempt to make one would be obtrusive.

There is not one of Scott's novels that does not have a realistic background. The scenery of the country is to-day very much as Scott saw it. To reproduce this scenery it was necessary to study Scott's life, and to travel over again the roads which he took. It was also necessary to study his writings, to see how his own personal impressions were fitted to his stories. In visiting these places and making the photographs Mr. Olcott kept in mind the principle that a photograph, to be acceptable to a book illustration, must not only represent its subject, but must be in itself pictorial. It must have some merits as a work of art. He has therefore endeavored to interpret the scenery of Scott by rendering the impression that it makes upon the traveler as he approaches, rather than by making an exact copy of the contour of the buildings and other places. By this method the pictures were made attractive in themselves as well as interpretive of the spirit of Sir Walter Scott.

In his choice of viewpoint, and in his management of light, shadow, perspective, and cloud effects, in the difficult Scottish atmosphere, Mr. Olcott has shown something of Scott's own instinctive sense of the beautiful and the picturesque. Nearly six hundred photographs were taken in all during an automobile trip all over Scotland, Northern England, and Wales, in quest of authentic Scott landmarks. Such work as Mr. Gleason did in illustrating Thoreau's Journals, Mr. Walmsley in the photographic illustrating for the writings of Wordsworth, and as Mr. Olcott has done in the Ward, and the Scott pictures, represents photographic illustration brought to its highest development. The illustrations, in these cases, supplement the text, and make the written word more vital and significant, which is, after all, their true function.

In order to attain success in this sort of illustration certain things are essential. Obviously the artist must be provided with an equipment of perfect lenses, adapted to different kinds of work, and must have all the various conveniences offered by the manufacturers of photographic apparatus, as well as the best of plates. He must also have some knowledge of artistic composition and the handling of light and shade. But more than this, the artist must be thoroughly familiar with the books which he is to illustrate, and have a fairly definite idea of what he is after. He must be willing to travel many miles in search of the right scenes, and the best point of view from which to take them. There is always one point from which the subject makes a better picture than from any other. The first problem is

to find that point and to get to it. But the most important requirement of all is that the artist should live in the very atmosphere of the author's work, long enough to realize the extent to which the scenes with which he was familiar inspired him and influenced his work. Without this sympathetic appreciation one cannot hope to make a success of illustrative photography.

HOW TO UTILIZE WASTE MATERIAL

BY SAMUEL WEIN.

In compiling the following data the writer has endeavored to meet primarily the practical requirements of the student and the practical photographer who has a love for experimenting and in the same time making use of the material always wasted.

Ruined negatives are undoubtedly the greatest waste by the photographer. The uses to which it may be put are manyfold. Cut the glass so that it will measure 3¼ inches square and the films cleaned off, they will make excellent cover glasses for lantern slides.

Take a spoiled negative, dissolve off all the silver with a solution of potassium ferricyanide and hypo. Rinse, dry, rub with sandpaper, the result will be a splendid ground glass.

Take another negative and repeat the dissolving of the silver, but this time wash thoroughly. Squeegee down on this a print, and an opaline will be the result.

Users of pyro, instead of throwing the old developer away, should keep some of it and allow it to oxide. A thin negative, if immersed in this for a few minutes, will be stained a deep yellow all over, and its printing quality will be much improved.

Flash powders to be ignited by simply applying the flame of a match or laying on an oiled paper and igniting that, may be made by the following formulas:

I.

Magnesium	6 parts
Potassium chlorate	10 parts

II.

Aluminum	4 parts
Potassium chlorate	12 parts
Sugar	1 part

The ingredients in each case are to be powdered separately, and then lightly mixed with a wooden spatula, as the compound may be ignited by friction and burn with explosive violence.

It is best to make only such quantity as may be needed for such use at the time, which is ten or fifteen grains.

To restore faded photographs.

I. As a precaution against a mistake first copy the old print in the same size. Soak the faded photograph for several hours in clean water and, after separating print from mount, immerse the former in nitric acid highly dilute (1 per cent.), for a few minutes. Then the print is kept in a mercury intensifier (mercuric chloride ½ ounce; common salt ½ ounce; hot water 16 ounces; used cold), until bleached as much as possible. After an hour's rinsing, a very weak ammonia solution will restore the photograph, with increased vigor, the upper tones being much improved, though the shadows will show some tendency to clog. The net result will be a decided improvement in appearance; but, at this stage, any similarly restored photographs should be recopied if their importance warrants it, as mercury intensifier results are not permanent. It may be suggested that merely rephotographing and printing in platinotype will probably answer.

II. Carefully remove the picture from its mount, and put it in a solution of the following composition.

	By Weight.
Hydrochloric acid	2 parts
Sodium chloride	8 parts
Potassium bichromate	8 parts
Distilled water	250 parts

The fluid bleaches the picture, but photographs that have been toned with gold do not vanish. Rinse with plenty of water, and develop again with very dilute alkaline developer.

The Recovery of Gold from Photographers' Solutions.

In reclaiming old gold solutions, all liquids containing gold, with the exception of baths of which cyanide forms a part, must be strongly acidulated with chlorhydic or sulphuric acid, if they are not already acid in their nature. They are afterwards diluted with a large proportion of ordinary water, and a solution of sulphate of ferroprotoxide (green vitriol) is poured in in excess. It is recognized that the filtered liquid no longer contains gold when the addition of a new quantity of ferric sulphate does not occasion any cloudiness. Gold precipitated in the form of a reddish or blackish powder is collected on a filter and dried in an oven with weights equal to its own of borax, saltpeter, and carbonate of potash. The mass is afterwards introduced gradually into a fireproof crucible and carried to a white red heat in a furnace. When all the matter has been introduced, a strong blast is given by closing the furnace, so that all the metal collects at the bottom of the crucible. On cooling, a gold ingot, chemically pure, will be obtained. This mode of reduction is also suitable for impure chloride of gold, and for the removal of gilding, but not for solutions containing cyanides, which never give up all the gold they contain; the best means of treating the latter consists in evaporating them to dryness in a cast iron boiler, and in calcining the residue in an earthern crucible at the white red heat. A small quantity of borax or saltpeter may be added for facilitating the fusion, but it is not generally necessary. The gold separated collects at the botom of the crucible. It is red, if saltpeter is employed; and green if it is borax.

HOW PRESIDENTS POSE FOR THEIR PHOTOGRAPHS

"I HAVE photographed every President since Grant," said a Washington photographer to a *Cleveland Plain Dealer* interviewer, the other day, "and I found President Taft the easiest poser of them all. President Taft isn't particularly fond of having his picture taken, but when he does face the lens, he falls naturally into the right position, doesn't have to be told to smile, doesn't stiffen up like so many photographic subjects, and generally knows the game so well that all of his pictures are successful.

"Mr. Roosevelt is an excessively hard man to pose for the camera. He is what we call a frigid subject, and it is impossible, it seems, for him to fall easily and naturally into the desired position. He unconsciously fights the photographer, as we say. When in the chair for a bust picture, he has a way of thrusting his chin far forward, in a grotesquely aggressive way, which, in a picture, would make him appear to be saying to the beholder of the portrait: 'Say, what's that you are talking about? Say it again! I dare you to say it again'!

"And Mr. Roosevelt is generally stricken with the fidgets when he faces the camera. It appears to be a positive misery to him to stick to one position for more than two seconds at a stretch. The very low cut collar that he wears appears to bother him when he is before the lens, and he has a way of incessantly grabbing at the front of the collar with the right hand, as if he wanted to jerk it off and toss it away. His hands appear to be doing something at all times, and I never photographed a man who had less natural repose. I often wonder how Mr. Roosevelt ever sleeps at night—how he gets to sleep, that is.

"Once I asked Mr. Roosevelt to permit me to photograph him without his eye-

glasses, just as a sort of novelty, but he wouldn't consent to this.

" 'The eyeglasses are just as much a part of me as my ears,' he told me, 'and I have a bad staring look without them. I look like somebody seeing a ghost.'

"He never brushes down his hair if it happens to be tousled when he removes his hat upon entering the studio.

" 'I don't like sleek hair,' he informed me once, when I handed him a brush before starting to pose him, and the best that he would do was nervously to smooth down his hair with his hands.

"During the last two years of Roosevelt's incumbency, he didn't much like to be photographed full length or three-quarters, for he grew undeniably stout, in spite of all his tennis, horseback riding, and wrestling. He is always in a terrific hurry to get out of a studio, but beyond a doubt is fond of looking at his finished photographs. He always wants proofs of all plates, and generally ends by ordering copies struck from all the different negatives.

"McKinley was a singularly easy man to pose for the camera—patient, plastic, submissive to the operator's requests, and possessed of a certain natural grace that made him a valued photographic subject. He, too, toward the later years of his life, grew to dislike any but bust pictures of himself, for his tendency toward stoutness was ever increasing.

"But no photograph ever quite did Mr. McKinley justice. All in all, he had the most remarkable pair of eyes that I ever saw in a man's head. They were literally as mellow as the eyes of an antelope—brooding, darkly luminous, suffused with pity, and yet they were strong and wholly masculine eyes, too.

"It was hard for a photographer to catch him without an expression of almost ineradicable melancholy in his face. His smiles were rare and fine, but they passed very quickly. He was often compared with Napoleon for facial resemblance, but his face was much finer than Napoleon's. It was as strong, but lacked the hardness of the Corsican's. For a handsome man, with a really noble head, Mr. McKinley was the least vain personage that I ever levelled a camera at.

"I suppose there are few people who know that Mr. Cleveland had a decided aversion to the camera. It almost took wild horses to get him to be photographed while he was President. Had it not been for his admirable wife, we might never have got him at all, for she always assisted us in our efforts to obtain sittings from him.

"The curious rugged honesty, not to say stubbornness, of the man was shown by the fact that he despised a photograph of himself the negative of which had been retouched. He wanted the picture just as it had been taken. He liked, for example, to stick his left hand beneath the flap of his frock coat in the conventional statesman pose. But that sort of thing went out of date with Webster, Clay, and Calhoun, and was made ridiculous by black-faced stump speakers of the minstrel stage when Mr. Cleveland was yet a boy. All the same, we always had trouble in preventing him from striking that outworn attitude every time he wanted a three-quarter or full-length photograph."

ON DRY PLATES

BY C. W. PERRY.

HAVING had a great deal of trouble myself regarding the working of dry plates, both with non-colour sensitive and panchromatic, especially in the summer time, and, after experimenting a lot to try and remedy the troubles, having succeeded I do not think it would be out of the way to give just a few wrinkles to my fellow-operators on the working of them, at the same time I know perfectly well in some cases it would be like teaching my grandmother how to suck

eggs, but I am sure there are plenty of men, especially novices, who will welcome the following hints.

The greatest of all troubles in the summer time, when the mercury is nearing the hundred mark, is what I call here "heat fog," and no matter how light-tight one's dark-room is the dots will not come sharp, quite a lot of fog coming between the dots. The trouble is caused by three things, viz.: over-exposure, warm chemicals and incorrect screen distance. Now, in a warm gallery, when plates are hot, they act much quicker, giving one a chance to use a smaller stop, again helping to get a sharper dot formation. The screen distance if only just a little wrong, will be doubly intensified by the warm temperature. Therefore an operator must always work out his screen distance exactly for use by the one-stop method; or if, as in some cases, the operator is unable to move his screen, he must use the correct size stop for the screen distance that he has fixed, so that when examined on the focussing glass with an eyepiece it is exactly chess-board pattern. It is so much easier now you have the proper screen distance to gauge your exposure, and when flashing with white paper use a very small stop about F. 180. With this you can give a good, long flash, say, twenty seconds average without spoiling any detail, and you will get on your developed negative a nice pin-point shadow dot.

Then comes the use of chemicals, which must always be kept in an ice box; good results cannot be obtained unless they are under 60 F. The cost for ice will save more than its cost in dry plates alone, without counting the time saved. Next we come to the fixing bath. It is impossible to put ice in this as the ice melts and considerably weakens the solution. The way I have found best is to get an ordinary rubber sponge bag and half fill it with ice, add a small quantity of salt, as the last mentioned helps to keep the temperature down; keep this bag laying in the fixing tray, and by rocking the bath occasionally the whole of the solution will keep cool; the ice bag requires refilling about twice a day. Now regarding developing, when it is warm weather, I have found two minutes' developing ample time to get the required density; if left in longer, up comes the fog. I do not need to say much on the winter side, as everything works so much cleaner when it is cool. I might say regarding developing when it is cold I have given as much as ten minutes before getting the proper density. Some operators, when they have developed three minutes and find hardly anything on the plate, think it is under-exposed, but if longer development is acceded to they will get their proper exposure and keep more density than if they gave more exposure and less development.—*Penrose's Annual.*

THE CAMERA MAN AND HIS PLACE IN THE ART WORLD

BY FLORA LEWIS MARBLE.

"NOTHING exists without its background. It's where the bird is that makes the bird." W. M. Hunt said that to a pupil long ago. The modern camera man has got the idea somewhere, and it has revolutionized photography.

Gone are the days when the photographer's subject must sit with feet on a certain spot in the carpet, back rigid, and head firmly screwed into an iron vice. The modern camera is a rapid medium with which to work; this partly explains the modern camera man's change of method, but it is more a matter of thought after all. He knows now that "it's where the bird is that makes the bird." He has learned many other things also. In fact he has become an artist.

An artist must know values, light and shade, composition and drawing. The camera man need not know drawing. His

camera does that for him, but he must know when things are out of drawing, or his camera may, now and then, play him absurd tricks. Values, light and shade and the composition of a picture are essentials of his trade as they are that of the artist of the brush.

Given an artist, that is a master of these things, and, whether his working tool is a stick of charcoal, a palette, or a camera, the result will be a picture.

The days are gone when the artist of the brush may look down upon the camera. It has become a means of artistic expression not to be ignored. It will show the art student values in landscape and figure work that the older artist, with eyes trained by years of experience, sees at a glance,—but which the young student finds obtuse. To the young student a pine tree is dark green. He knows it is dark green. When he paints it in a flood of sunshine he still strives to see it dark green. A glance at the figure study taken with the sunshine on pine trees reveals the fact that, to the camera, pine trees in the sunshine radiate atmosphere. They are no longer dark green, but the color of sunshine.

Atmosphere settles the color of a thing, as well as the color value, and yet we talk of color as a fixed quality. The camera shows that color and values are never fixed, but vary with every changing light or atmospheric condition. The modern camera can express color and values as truthfully as an artist with pen, wash drawing or etching can do it in one tone work.

A German artist is said to have made the remark,—"I can do anything God can. If he has atmosphere, I have cobalt." The man with the camera has no cobalt, but he has the advantage of working directly with God's atmosphere. It is his medium. If he uses it understandingly he will never have to retouch a negative.

"It don't improve a kettle to make it blacker than it is. Spread the light on broadly as sunshine" says the art teacher. The camera man adopts this method, and many charming landscape and figure studies are the result.

Every person and everything has individuality. The modern artist with the brush, or the camera, strives to express individuality, either his own, in a composition of his imagination, or that of the sitter, if he is a portrait artist. If he is a portrait artist the individuality of the sitter comes first, but it is this individuality seen through the medium of the artist's mind. The picture shows how the individuality of the sitter strikes the artist—it can do no more nor less. This explains why different portraits of the same person, done by several artists, vary. "Individualism is the most resonant note in the symphony of modern thought" says an able writer, summing up conditions of men and things in the world to-day. This is as true in the field of art as elsewhere, and this new artistic sense has brought the camera man into a new art perception.

PRACTICAL NOTES FROM LONDON

"Who was the first professional photographer in London?" was the question asked at a recent meeting in London. A member present mentioned that his late partner had been a pupil of Fox-Talbot's. His partner had said that the first photographer to open a place of business was one Hannington, who had previously been Fox-Talbot's valet. He could not remember the exact situation of Hannington's studio, but he was sure that it was in Regent Street, on one's right hand when going from Piccadilly Circus to Regent Circus, and not far from the Piccadilly end. The fact that Hannington had acted as Fox-Talbot's valet is interesting and important, as doubtless in that capacity he would have

had opportunities of seeing and assisting in many of his master's unpublished experiments.

"Happy is the land that makes no history." The annual general meeting of the Royal Photographic Society passed off last week in a general state of calm that should presage prosperity and happiness. An atmosphere of optimism prevaded the assembly. The only things wanted are more members, and, of course, more money. The membership roll at the beginning of this year is some thirty or so below that of the previous year. Arrangements are well in hand for the forthcoming exhibition, so that we may expect the issue of the prospectus very shortly. Only 200 members out of a membership roll of 1,000 took part in the ballot for the year's officers: President, Chapman Jones; vice-presidents, W. B. Ferguson and J. B. B. Wellington; treasurer, A. H. Lisset; council, Messrs. Bartlett, Boyes, Camer-on-Swan, Corke, Gear, Inston, Lamley, Lewis, Marriage, Martin-Duncan, Duke of Newcastle, Newton, Oakden, Renwick, Sanger-Shepherd, Atkin-Swan, Warburg, and Wastell.

As regards the microscope generally and more especially in its connection with the camera, perhaps the most important advances made of late years is in connection with the apparatus to be used in conjunction with artificial light. At the monthly meeting of the photo-micro-graphical society, Mr. Max Poser, in a brief and lucid paper, expounded the underlying principles of condensors, and demonstrated the latest contribution of the eminent firm of Zeiss in the form of a new electric lamp. This is made either for hand or automatic feed, the latter form is actuated by clockwork, controlled by a magnetic balance. The crater carbon has a specially prepared core containing iron, and gives a light rich in ultra violet rays. The crater carbon is placed horizontally. By suitable contrivances the position, the quality, and quantity of the light are kept constant, the crater coinciding with the optical axis of the system. The focal length of the condensor should vary with the intensity of the light. By keeping the "amperage" of the lamp low the corresponding short-focus condensor can be brought near the light, and so a wide angle of rays collected.

A word of caution was given in connection with the use of light rich in ultra-violet rays. If the naked eye be used there is a considerable danger of retinitis resulting, or some other similar trouble producing local retinal blindness, or separation of the retina from the choroid. Condensors designed to pass ultra violet light are usually made of quartz. Fortunately—in this connection, at any rate—ordinary glass is largely, if not entirely, opaque to these rays, so that safety may be obtained by using spectacles containing ordinary, preferably lead, glass. This can be shown by a very simple experiment. The reader knows, of course, that the unaided eye does not perceive ultra violet rays, but if we let them fall on a piece of uranium glass it takes on the familiar greenish color. But if there be interposed a piece of ordinary glass, e. g., a thin micro-slip cover glass of the ordinary kind, even this thin layer is sufficient to stop these rays and give a dark shadow. A member present added a strong word of caution to photographers using the present day popular mercury vapour light.

It may lie within the memory of some of our readers that when our attention was called some years ago to the discovery of the "X" rays and electric discharges through high vacua it was shown that various crystalline minerals glowed with characteristic and often very beautiful colours. Mr. Max Poser told us that this subject was being actively followed up by many investigators, and that a comparatively new line of fluorescence analysis was being opened out that had already led to some import-

ant results. He hoped to show us some examples shortly. This method of research in connection with the microscope enabled the observer to recognize the presence of exceedingly minute particles of certain minerals too minute to be otherwise handled. It yet remains to be seen whether the photographic plate will give permanent record of what the observer sees with the eye.

HOW TO SELL YOUR PRINTS

MR. A. S. DUDLEY, author of "Cash and The Camera," has issued a booklet containing a list of publishers and others who buy prints.

As a foreword to the little book he gives ten "rules," which, if followed by the photographer, will help materially in the sale of his prints. Here they are:

First—The picture must tell a real story.

Second—All publishers demand that all prints be sharp and clear, suitable for half-tone reproduction.

Third—Size of prints should be not less than 5 x 7. If your camera is smaller it would be wise to make 6½ x 8½, or larger, enlargements. Remember that small negatives—if clear and sharp—often present greater possibilities, when enlarged, than the large contact print.

Fourth—Your name and address must be on the back of each print. (Better get a rubber stamp.)

Fifth—Perhaps, most vitally important of all is the sending of data with the print. Four times out of five the cause of failure to have one's prints accepted is due to thinking the photograph will sell itself. Publishers want more. They demand brief facts regarding each print.

Sixth—If sending more than one print, number each print, and then give a detailed description on separate sheet of paper—according to numbers. Mail prints and data together (flat) in sealed envelope, at first-class postage rate.

Seventh—All publishers are glad to pay high prices, for with a high price goes quality. The prices quoted here are conservative, and are the rates per single unmounted print. The photograph that exactly fills a publisher's need will bring the top-notch figure. You'll be paid according to the value of your work. Price also depends upon the nature of the print and the use to which it is put. One suitable for a cover usually brings five times the price of the print reproduced inside of the magazine.

Eighth—Do not send snapshots of scenery that can be equalled for beauty and for general interest in almost any part of the world.

Ninth—Rejected pictures will *not be returned* unless accompanied with return postage.

Tenth—Study the magazine and the requirements of the publisher before you submit prints. Don't waste your time, and that of the publishers, on material upon which you yourself can easily pass first judgment.

MODELING is now in great vogue in the various crafts and arts. Workers on leather, brass and other materials are producing much interesting work. Why have photo-engravers practically dropped these effects in their work? A blank glass plate inserted below the film plate when printing allows shadows to form and brings lettering and decoration into relief, suggesting modeled effects.

Potassium bichromate is not sufficiently soluble in alcohol, and the ammonium salt is preferable. A stock solution may be made by dissolving an ounce and a half in twenty-five ounces of water. For use, one ounce of this is mixed with two ounces of pure alcohol (not methylated).

Plate I

Illustrating Sidney Allan's Article

Plate II

By H. Lerski, Milwaukee, Wis.

Illustrating Sidney Allan's Article

Plate III

By H. Lerski, Milwaukee, Wis.

Illustrating Sidney Allan's Article

Plate IV

By Noetzel Studio, Newton Centre, Mass.

Illustrating Sidney Allan's Article

Plate V

By Ira Schwartz

Illustrating Sidney Allan's Article

Plate VI.

By Arnold Genthe

Illustrating Sidney Allan's Article

Plate VII

By Laura Adams Armer

Illustrating Sidney Allan's Article

By John F. Jones, Toledo, Ohio.

HOW TO MAKE LARGE HEADS

A New Phase of Photographic Portraiture

BY SIDNEY ALLAN.

HEAD or face portraiture is coming more and more into vogue. By this is meant, the peculiar importance that is given to the head or face by some portraitists in recent years. They devote frequently more than one-third and never less than one-sixth of the entire picture area to the delineation of the face.

It is nothing new, it is only becoming more fashionable. F. H. Day of Boston and Eugene Smith, now professor at the Emmerich Academy of Photography at Munich, practiced it as long as ten years ago. The German photographers, without deteriorating it with a specialty, always considered a large head without bust as one of the favorable forms of expression in portraiture. The English painter Watts composed most of his portraits in that fashion. And the Old Masters—well, most of them favored the simple bust portrait which gave due, and perhaps just the right amount of prominence to the face. To them accessories were always secondary. But neither did they make the face the solitary point of interest. They adopted the golden middle way. The recent development looks a trifle exaggerated, and yet there is an excuse for it.

If we photograph a person with the main purpose of getting a likeness, an accurate delineation of the face is after all the most important thing. We may not always succeed in getting it, but that is a different matter. We at least strive for it and would like to get it. And size has much to do with a satisfactory result, in particular with amateurs who work with small plates. A large sized head commands more attention, it tells its story plainly, and no matter how broadly treated will show the features in more perfect detail. These are better opportunities for clear drawing and modeling, and the carrying out of lighting schemes. And for that reason a large head is an excellent recorder of facial structure and expression. It is a trifle severe, as it dispenses with all unnecessary embellishment, but it is more powerful and convincing than the small-sized face.

Every phase of pictorial expression is ruled by certain laws of composition. Also this style of portraiture must have its own peculiar methods of arrangement. Let us investigate them. After little deliberation we must come to the conclusion that the most important factors in this style of composition consist of the shape of the head, the relation of its size to the rest of the picture, and the placing of it in the allotted area.

In Fig. 1 all these considerations are absent. It is just an ordinary photograph without any pictorial pretensions. There is nothing pleasing about the shape of the head, and no attempt has been made to bring it in harmony with the background or the bust. It is all harsh and angular, as if cut out with a scissor.

Fig. 4, by the Noetzel Studio, shows a great improvement in Fig. 1. The child's head is an excellent example of child portraiture, everything is graceful and well defined, only the tone of the fleshtints—although rather high in key—look a trifle dark in their light surroundings. The pictorial element in this portrait, however, is very slight. The oval of the face is still to much in the centre, this is effective only when the head is much larger. The symmetry must be caused by the contour of the head and not by the space around it. The face in this arrangement is all-prominent, but the remainder,—background and bust,—occupy too much space to have been left so bald. The portrait, pictorially speaking, lacks interest.

The Mother and Infant picture, Fig. 5,

by Ira Schwartz, represents a more direct attempt at composition. It is an effect of contrast, of large dark and light planes. The infant's head, no doubt, was the main object of taking the picture, and it is well brought out. But the mother's form looks cramped. There may be a slight distortion from the lens. The principal error is in the shoulders. The back of the chair and the velvet band on the arm were necessary for the balance, but the shape produced thereby is too conspicuous and decided; not too large, it could even be larger, but the tone had to be more mellow and subdued. The picture represents an ambitious but not altogether successful experiment.

The child portrait by Arnold Genthe, Fig. 6, is an enlargement. It is a light toned composition, and the vague and subtle values help to fill the space. The position of the head is balanced by the hands. The latter are indistinct, a disadvantage in one way but an advantage in another, as they would become too conspicuous if more clearly shown. This picture is perhaps the most artistic if an illustration, but more on account of its technical charm than for any special merit of composition.

We now come to the really large heads, Figs. 2, 3, and 7. It seems to me that the heads in both of Mr. Lerski's portraits are not too large, as one may think at the first glance, but carelessly placed. The heads in themselves are masterly, they clearly prove the advantages of this special style of portraiture, as far as lighting, facial detail, and power of delineation are concerned. But the facial planes are not in the right place. Fig. 3 suffers from the same shortcoming as Fig. 4. It should have been shifted more to the left. And Fig. 2 does not show enough of the shoulders for the size of the profile. It should be trimmed at the right, and there could be more empty space at the left.

How much better did Miss Laura Adams Armer (for years one of our most noted amateurs) succeed with the same problem. The head is large but it is perfectly placed, and to this is largely due that the back of the head is lost in the background. You may argue that Lerski has done the same thing in Fig. 2. Yes, but Fig. 2 is a profile, quite a different proposition, as the shape of the head is larger in a profile than in a three-quarter view. Besides a profile is angular in character, while the contour of the cheek is curved. The spacing in fig. 7 could not easily be improved upon. There the shape of the head is pleasing to the eye, and placed in such a manner that it perfectly balances the tone of the background, and the lines of the shoulder and the blurred details of the leaves in the hair.

These are the fundamental principles which the pictorialist must consider if he desires perfection in this particular method of interpretation.

Everything depends on the placing of the head or face, and profiles and three-quarter views are not as conducive to harmonious exploitation as three-quarter views. Symmetrical as well as angular form looks exaggerated when very large in size. All strong contrasts between face and back-ground should be avoided, as the features and structural planes of the face themselves will furnish sufficient differences in values and gradations.

So the gist of the lesson we have learnt to-day, is that if we attempt large-sized heads, we should never be afraid of making them too large, and that the three-quarter view on account of its inherent picturesqueness, is the most suitable for experimentation.

A small quantity of crimson-lake moist water color dabbed on the glass side of a weak negative will strengthen the high-lights. By repeatedly breathing on the color and dabbing with the finger-tip a very soft tint can be obtained.

A piece of ground glass in the printing frame behind a thin negative will greatly help it. Pencilling can be applied to the ground surface where the negative is weak, and a little vaseline or oil will strengthen the shadows where needed.

VIGNETTING ENLARGEMENTS

VIGNETTING an enlargement is often looked upon as too troublesome an operation to be worth while attempting, but, as a mater of fact, it is perfectly easy if only the apparatus is arranged so as to permit the required adjustments. It is not so easy if we try the method often advocated of cutting an irregular hole in a piece of cardboard, then holding this vignetting-screen between lantern and screen and keeping it in motion all the time. This is a most unworkmanlike method, giving results that cannot be repeated, and only producing a good result very occasionally by mere fluke. If the work is to be done well and is to be repeated the vignette must be fixed and kept permanently in position until the whole series of enlargements is completed. A very little practice will, however, show that a simple screen mounted on feet and with a hole cut in it is of no use, as it is not sufficiently adjustable. If all the required movements are not available it may take half-an-hour or more to get the desired effect, while with the proper movements two or three minutes will be ample. The essential movements are six in number, and it will be convenient to tabulate them as follows:

1. Movement to and fro between lantern and easel.
2. Vertical movement of vignetter.
3. Horizontal or cross movement of vignetter.
4. A rotatory movement in the plane of the vignetter.
5. A vertical swing to and from the easel.
6. A horizontal or side swing about a vertical axis.

The first of these movements is absolutely essential in order that we may get a vignetted patch of the right size and of the required degree of softness. The nearer the vignetter is to the lantern the softer is the outline and the larger is the patch, while the movement also permits one vignetter to be used for a variety of different degrees of enlargement. The vignettes of any one shape will serve for all enlargements likely to be required. The desirability of the second and third movements is obvious, for in the case of vignetting a portrait it is essential to get the head in exactly the right position within the vignetted patch. This adjustment can, however, be made by shifting the negative up or down or sideways in the lantern, and if the lantern has these movements they will to some extent compensate for the lack of similar movements in the vignetter, though they are not so efficient, as they do not permit the same fineness of adjustment. The fourth movement may also be obtained in the lantern by rotating the negative instead of the vignetter, but as many lanterns have no provision for such an adjustment it is generally necessary to arrange for it in the vignetter, and in practice we prefer to move the latter rather than the negative. The importance of this rotating movement is appreciated when vignetting a head that is in three-quarter face or profile. The best vignetter for such a subject will generally be one with an opening of an irregular pear shape, or something like a large comma with a big head and a very short tail, and with any vignetter of this irregular form a very slight rotatory movement will often turn a very unsatisfactory effect into one that is all that can be desired. Moreover, it will enable the same vignetter to be used for several different negatives. The fifth movement—the vertical swing—enables us to regulate the height of the vignetted patch to a nicety, and also gives us a little control over the shape of the patch. Suppose the vignette to be a perfect oval—it never will be in fact if we take any trouble to vignette properly, but we must assume a perfect figure for the sake of illustration—then by inclining the vignetter vertically we can reduce the height of the oval, and so make one oval serve for a number of different subjects. With the sixth move-

ment—the side swing—we can produce the same effect horizontally. Suppose, again, we are using the coma-shaped vignetter, then with the aid of the vertical swing we can bring the tail part nearer the lantern than the upper part, and so cause the tail part to transmit more of the subject than it otherwise would. In practice we find these swinging movements quite indispensable, for many a time we have found a very slight swing in one direction or the other obviate the necessity of cutting a new vignette.

With regard to the vignetter itself it is necessary to have this in the centre of a fairly large screen, a foot square at least, and larger if possible. The vignetter itself, however, need be no bigger than a lantern-slide. If cut circular and fitted in a circular aperture in the large screen, the fourth rotatory movement is obtained readily. If we take two sheets of mounting-board of the same size, cut a four-inch hole in the centre of one and a three-and-a-half-inch hole in the other, the two, when glued or pasted together will form the screen, with a rebated central hole, into which hole four-inch vignettes can be dropped, and held in with card turn-buttons fixed with paper-fasteners. The vignette itself can be made from this card or stiff paper. The screen can be held by a clamp on an ordinary retort stand, which alone will provide all the necessary movements at a very small expense.

Another method is to fix overhead rails, from which the screen is suspended, or to fit the screen with feet and stand it on a table. These methods have, however, the disadvantage of leaving out two important movements, or, at any rate, of making them more difficult to arrange—these are the vertical movement and the vertical swing, and while the former may be replaced by a raising or lowering movement of the negative-carrier, the latter cannot be reproduced in the lantern at all. Of course, there are many ways in which a little ingenuity can provide all the movements desirable, and the more readily they can be effected the more efficient and economical in use is the apparatus. The vignettes should, of course, be serrated, and the serrations should be numerous and fairly deep, so that they can be turned back in places where it is needful to let through a little more light. With a view to this, it is preferable to make them in thick tinfoil or thin sheet lead or aluminium, for one vignette with a little adjustment can then be made to serve for a great number of different subjects. In making the vignettes it should be remembered that we are very apt to over-estimate the size required. It is best to begin with a hole that seems obviously too small, and then enlarge it as is found necessary. A proper tool for making the serrations will be found very convenient, but, of course, a pair of small scissors is equally effective if used carefully. When vignetted portrait enlargements are being produced in large quantities it is quite worth while, and indeed the best economy, to fit up the vignetting apparatus with a little elaboration in the way of fine adjustments. The vertical and horizontal movements cannot well be too fine or too steady, and if rack and pinion adjustments can be adapted so much the better. For the rotatory movement a fine adjustment can be dispensed with without much inconvenience, while it is quite unnecessary in the case of the swinging movements, which are relatively coarse ones. The movement of the vignetter to and from the easel can be made quite well by hand if the apparatus is light and easily moved, but if it is heavy a coarse rack motion is very desirable. Perhaps the best possible method of fitting up the whole apparatus is to have an extra long baseboard with each extension fitted to the lantern underneath the one belonging to the lantern itself. On the front of this extra baseboard the whole of the vignetting apparatus can be fitted, with all the necessary adjustments, the simple removal of the vignetter being all that is necessary to adapt the lantern for ordinary use.—*British Journal of Photography.*

PHOTOGRAPHING THE SUN AND THE STARS

In a most interesting illustrated paper entitled, "The Day's Work of the Mount Wilson Observatory," Professor George E. Hall, who is the distinguished director of that important solar observatory in Southern California, describes how they photograph the sun and stars with their special new apparatus, and the wonderful discoveries which they have made by that means.

He writes:—

"We may now refer to certain specific phenomena, which occur from time to time in different parts of the sun's surface, for example, the sun-spots. These were seen by Galileo when he first directed his telescope to the sun, but the difficulty of interpreting them has been very great. Prior to the beginning of the work on Mount Wilson, the spectra of sun-spots had been observed visually, but had never been photographed on a large scale. Experiments with this end in view, begun in Chicago at the Kenwood Observatory in 1891, and continued at the Yerkes Observatory, were finally carried out successfully on Mount Wilson, with the aid of the Snow and tower telescopes. Then followed the work of interpretation, and here again we must fall back upon the laboratory. An electric furnace provides the means of heating iron vapor up to 3,300 degrees Centigrade. By making photographs of its spectrum at high and comparatively low temperatures, we find that at the lower temperature certain lines are strengthened while others are weakened. As the lines which become relatively stronger when the temperature is reduced are also strong in sun-spots, we infer that sun-spots are cooler than the surrounding solar surface. It is thus possible for certain chemical compounds to exist in spots, such as magnesium hydride and titanium oxide, which are not found in the hotter regions outside of spots, where they are doubtless broken up by the intense heat. Thousands of lines belonging to these compounds have been identified on our plates with the corresponding lines observed in the laboratory.

"Meanwhile, since its first use at the Kenwood Observatory in 1891, the spectroheliograph has been applied to the solution of many solar problems. This instrument permits the sun to be photographed with the light of any single element, such, for example, as calcium or hydrogen. The earliest photographs with the light of calcium showed that sun-spots are surrounded by enormous areas of luminous calcium vapor, floating in the solar atmosphere, which are quite invisible when the sun is observed visually or photographed in the ordinary way. These are bright regions in the sun's atmosphere. Later, at the Yerkes Observatory, immense dark clouds of hydrogen gas were discovered, of similar form, but showing different details of structure. In 1908, by photographing the sun with the red line of hydrogen for the first time, we found at Mount Wilson that definite vortices, or whirlpools, are associated with sun-spots. These exist at a high level in the sun's atmosphere, and thus had not been clearly recorded in previous photographs with other hydrogen lines, which represent lower regions. Their existence suggested that a sun-spot might be analogous to a terrestrial tornado. Fortunately, a definite method of settling this question was available.

"In 1876 Sir William Crookes detected the minute charged particles shot out from the negative pole of a vacuum tube, now well known as "cathode rays." These electrons are the fundamental units of electricity, traveling in the tube at high velocity and capable of deflection by a magnet. Sir Joseph Thomson and others have shown that they are also emitted from flames or from such highly heated bodies as the carbon filament of an incandescent lamp. They must consequently be present in the sun in great numbers. Suppose a mass of these electrically-charged particles to be whirled in a vortex—what must happen? We

know that by rotating an electrically-charged body at a high velocity a magnetic field is produced. Hence, if a sun-spot is really a vortex, the whirling charges in it should produce a magnet, precisely analogous to the electro-magnet which results when an electric current is passed through a spiral coil of wire.

"But, at a distance of 93 million miles from the sun, how are we to detect such magnets, if they exist? The discovery of the effect of a magnetic field on light, made in 1896, provides the necessary means. This discovery was that the lines in the spectrum of a vapor, single under ordinary conditions, are split into two or more components when the vapor is radiating between the poles of the magnet. Moreover, the light of these components is polarized in a characteristic and unique way, so that if we find such lines in any radiation, we may be sure that the source of the light is in a magnetic field. For years it had been known that some of the lines in the spectrum of a sun-spot were double, but this appearance had always been attributed to another cause, having nothing to do with magnetism. Guided by this reasoning, we applied the necessary tests with the tower telescope on Mount Wilson, which had been devised for work of this kind. The results left no room for doubt. They proved that sun-spots are great electric vortices, producing within them powerful magnetic fields. Such vortices, when whirling in opposite directions, cause magnetic fields of opposite polarites. Thus electro-magnetic phenomena were demonstrated to exist outside of the earth, on a scale vastly transcending anything attainable here. The investigation not only indicates the essential nature of sun-spots, but shows that electrical and magnetic effects must play a great part in other stars, some of which are enormously larger than the sun.

"It should be added that terrestrial magnetic storms are not due to the direct magnetic effect of sun-spots. In common with the aurora, they are probably caused by electrically charged particles, shot out from the sun and drawn in toward the magnetic poles of the earth. Professor Störmer, of the University of Christiania, to whom (and his colleague, Professor Birkeland), this theory of the aurora is due, has recently been at Mount Wilson investigating mathematically the action of sun-spots on the electrically charged particles shown in our photographs of the solar atmosphere.

"The instruments and methods employed in this work are for the most part new, devised by the members of the staff and constructed in the Observatory instrument shop. Among these are the Snow telescope, which reflects a beam of sunlight horizontally into a long house, prevented from heating by louvered walls. The beam falls upon a silvered concave mirror, which forms an image of the sun, about 6½ inches in diameter. This is photographed daily with the spectroheliograph. Experience with the Snow telescope suggested that for some kinds of work important advantage might result from the use of a vertical rather than a horizontal beam of light, and the first tower telescope, 60 feet high, was constructed. Here the spectrograph and spectroheliograph, 30 feet in length, are mounted in a well excavated in the rock beneath the tower. This experimental instrument proved to be so satisfactory that a new tower telescope, 176 feet high, has been recently erected on the mountain. This gives an image of the sun 16½ inches in diameter, which is studied with a combined spectrograph and spectroheliograph 80 feet long, in a well beneath the tower. In spite of its great height, the new tower has proved to be perfectly stable, and many important results have already been obtained with it. For one thing, it is possible with this instrument, on any good day, to photograph the "flash spectrum." This is the spectrum of the luminous atmosphere of the sun, which appears as a thin crescent for only an instant, just as the dark body of the moon covers the sun at a total eclipse. It is now an easy matter, not only to photograph all the bright lines previously observed only at eclipses but

to determine their chemical origin and physical condition much more accurately than can be done during the brief duration of the "flash."

"So much for the sun which, as already mentioned, is studied as a typical star, near enough the earth to be examined in detail. The other stars, which are very remote from the earth, must be observed by telescopes of a different type, capable of collecting a great amount of light and concentrating it in a sharply defined image. In the 60-inch reflector a silvered concave mirror, five feet in diameter, is supported at the lower end of a skeleton tube, so mounted that it can be driven by clock work, at a rate exactly counteracting the rotation of the earth. Thus the star images, falling upon a photographic plate, can be kept there motionless for hours together, so that the faintest objects can be recorded. On account of the great size and perfection of this telescope, stars fainter and more distant than any previously known can be photographed with it. In the same way the structure of the nebulæ, notably that of the beautiful spirals, is brought out in exquisite detail, so that many new possibilities of investigation have been opened.

"The 60-inch reflector is used for a variety of observations bearing upon stellar evolution. For example, a series of photographs is being made of the nebulæ catalogued by Sir William Herschel, for purposes of classification and measurement. Herschel, working before the days of photography, was able to see these objects very imperfectly, though it is doubtful whether his drawings could be much surpassed by a visual observer to-day. In the great work of Keeler at the Lick Observatory, it was found that the most common form of nebulæ is the spiral, of which hundreds of specimens exist. It is probable that many stars have their origin in such spirals, and that we see here the process of world-formation in actual operation. But the scale of these objects is so vast that no change in their form has yet been detected, even after the lapse of years, and in spite of the undeniable marks of rapid motion which they exhibit. So it is with the stars; we cannot watch the life-changes of a single star, as they occupy millions of years. We must pick out specimens of young, middle-aged, and old stars, and study them with every plate they have formed from nebulæ in comparatively recent times; the yellowish stars, of greater age, among which our sun belongs; the orange stars, with fading light; and the red stars, some of which probably represent the last stages of stellar life."

ABOUT METOL

Every now and then some article appears in the photographic press concerning the poisonous qualities of some one or other of the developing agents, more particularly metol. To this developer all sorts of harmful influences are attributed, and manufacturers of rival developers are quick to take advantage of this and claim immunity from ill effects for their products.

Now, after all, it is largely a question of what is one man's meat being another man's poison. For every case of skin disease induced by the use of metol there are hundreds and probably thousands of cases where the metol has no effect whatever. And, again, there are cases where even the most innocuous developers have wrought damage to the skin of some particularly susceptible person. An English journal has recently put forward the suggestion that possibly the choice of the alkali used in the metol developer formula has much, if not everything, to do with the irritant action on the skin. In other words, sodium carbonate has produced, in the experience of the writer referred to, a poisoning effect, while potassium carbonate has had no effect whatever. If this is

so it is well worth knowing. But it is foolish to condemn this most useful developing agent because a few are more susceptible to its action than the majority. I know of cases where the eating of strawberries produces an eruption on the skin. Others cannot eat pineapple without disastrous results, and so on. But who would condemn strawberries or pineapples as poisonous and to be avoided because of a few unfortunate examples?

For those who do suffer from metol, the following directions for a cure may be welcome:

It has been recommended to rub the fingers with orange juice after developing. This has effected a cure with those who have suffered.

If the skin is cracked or broken round the finger nails, the fingers should be enveloped in rubber finger stalls. A short experience with these will enable the user to work as well with them as with the bare fingers, and they are a sure preventive.

Or, if your fingers are affected in any way by metol, soak the hands in warm water at night, rub in zinc ointment and wear a pair of gloves to keep the ointment on. This should effect a cure in two or three days. To prevent recurrence, dip the hands frequently in clean water while at work, and at night and morning and meal intervals wash well with soap and warm water.

Cramer's Manual advises the following procedure for those who are bothered with metol effects. Take first a good dose of Rochelle salts, and next day use Swift's Special Specific (S. S. S.) according to directions for scrofula. An Italian authority gives the following prescription for an ointment:

Ichthyol	1 part
Lanoline	2 parts
Pure vaseline	3 parts
Boracic acid	4 parts

But better than all of these is the continuous dipping of the fingers in clean water during work. And there may be a whole lot in that potassium carbonate suggestion mentioned above.

Drying Negatives Quickly: A Hint.—When a negative has to be dried quickly without the help of heat or of spirit, much time may be saved by the following dodge, which can be used without the slightest risk of injuring the film, if the most ordinary care is taken. The edge of a flat squeegee should be tested all along with the finger tip. If it feels perfectly smooth, it may be employed thus. It is placed on the film of the negative, parallel with one edge of it and about an eighth of an inch away, and it is drawn smoothly over the plate. It is then wiped clean and dry, and the operation repeated in the opposite direction. If necessary, a couple more strokes the other way of the plate can be given; but these are not usually required.

The Color of the Dark Room.—Much has been said and written on the question of the color which the walls, etc., of a dark room should have. Some say black, others white or red. W. Ridel, in *The British Journal of Photography*, gives the following advice: "Let the walls of the dark-room be of yellow color and matt surface, and use a powerful ruby lamp, the light of which is turned toward the wall. You will then obtain a strong reflected orange light in which work may be done in great comfort, which illuminates all parts of the room and does not fog the most sensitive orthochromatic plates."

If only a slight intensification is needed, bleach the negative in saturated solution of mercuric chloride (1 oz. in 16 ozs. hot water acidified with 40 minims of hydrochloric acid), wash well, and blacken in soda sulphite 10 per cent. solution.

The best color for rubbing in a background on bromide enlargements is made by mixing fine blacklead, powdered pumice, and black stumping sauce (crayon) to match the print. It is applied with a bit of fine wash-leather stretched over the finger. Some workers use a pad of cotton wool.

BUILDING A SMALL DARK ROOM

In building a photographic dark room, it is necessary to make it perfectly light-tight, the best material to use being matched boards. These boards are tongued and grooved and when put together effectually prevent the entrance of light.

The next important thing to be considered is to make it weather-tight, and as far as the sides are concerned the matched boards will do this also, but it is necessary to cover the roof with felt or water-proof paper.

The best thickness for the boards is 1 in., but for cheapness ¾ in. will do as well, yet the saving is so little that the 1 in. boards are preferable.

The dark room shown in the accompanying sketch measures 3 ft. 6 in. by 2 ft. 6 in., the height to the eaves being 6 ft. Form the two sides shown in Fig. 1, fixing the crosspieces which hold the boards together in such positions that the bottom will act as a bearer for the floor, and the second one for the developing bench. Both sides can be put together in this way, and both exactly alike. Keep the ends of the crosspieces back from the edges of the boards far enough to allow the end boards to fit in against them.

One of the narrow sides can be formed in the same way, fixing the crosspieces on to correspond, and then these three pieces can be fastened together by screwing the two wide sides on the narrow one.

Lay the floor next, screwing or nailing the boards to the crosspieces, and making the last board come even with the ends of the crosspieces, not even with the boards themselves. The single boards can then be fixed, one on each side of what will be the doorway, by screwing to the floor, and to the outside board of the sides. At the top of the doorway, fix a narrow piece betwen the side boards, thus leaving a rectangular opening for the door.

The roof boards may next be put on, nailing them to each other at the ridge, and to the sides of the room at the outsides and eaves. They should overhang at the sides and eaves about 2 in., as shown in Figs. 3 and 4.

One of the sides with the crosspieces in place will be as shown in Fig. 2 in section, all the crosspieces and bearers intersecting around the room.

The door is made of the same kind of boards held together with crosspieces, one of which is fastened so as to fit closely to the floor when the door is hinged, and act as a trap for the light. The top crosspiece is also fastened within 1 in. of the top of the door for the same reason.

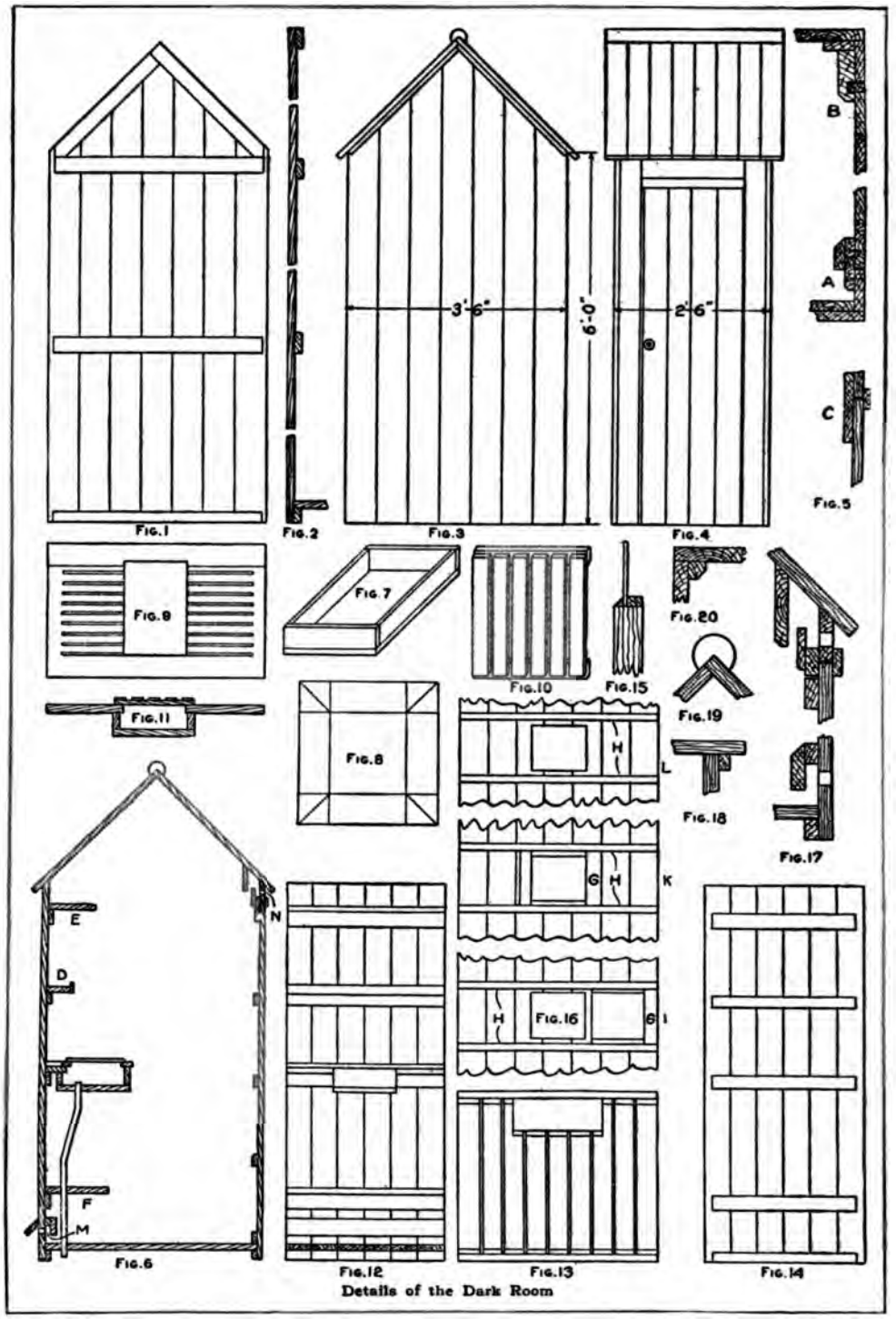
Light traps are necessary at the sides and top of the door. That at the hinged side can be as shown at A, Fig. 5, the closing side as at B, and the top as at C in the same drawing. These are all in section and are self-explanatory. In hinging the door, three butt hinges should be used so as to keep the joint close.

The fittings of the room are as shown sectionally in Fig. 6, but before fixing these it is best to line the room with heavy, brown wrapping paper, as an additional safeguard against the entrance of light.

The developing bench is 18 in. wide, and in the middle an opening, 9 by 11 in., is cut, below which is fixed the sink. It is shown in detail in Fig. 7, and should be zinc lined.

The zinc should not be cut but folded as shown in Fig. 8, so that it will fit inside the sink. The bench at each side of the sink should be fluted (Fig. 9), so that the water will drain off into the sink. A strip should be fixed along the back of the bench as shown in Figs. 6 and 9, and an arrangement of slats (Fig. 10), hinged to it, so as to drop on the sink as in Fig. 6, and shown to a larger scale in Fig. 11.

A shelf for bottles and another for plates, etc., can be fixed above the developing bench as at D and E (Fig. 6) and another as F in the same drawing.



Details of the Dark Room

This latter forms the bottom of the tray rack, which is fixed on as shown in Fig. 13. The divisions of the tray rack are best fitted loosely in grooves formed by fixing strips to the shelves and under the bench and sink as in Fig. 13.

Extra bearing pieces will be wanted for the shelves mentioned above, these being shown in Fig. 14. The window is formed by cutting an opening in the side opposite the door, and fixing in it a square of white glass with strips of wood on the inside and putty on the outside, as in Fig. 15. A ruby glass is framed as shown at G, Fig. 16, and arranged to slide to and fro in the grooved runners H, which makes it possible to have white light, as at I, or red light as at K, Fig. 16. The white glass with runners in position is shown at L in the same drawing, but not the red glass and frame. Ventilation is arranged for by boring a series of holes near the floor, as at M, Fig. 6, and near the roof as at N in the same drawing, and trapping the light without stopping the passage of air, as shown in sections, Fig. 17.

The finish of the roof at the gables is shown in Fig. 18, the strip under the boards holding the felt in position when folded under, and the same is true of the roll at the top of the roof in Fig. 19.

The house will be much strengthened if strips, as shown in Fig. 20, are fastened in the corners inside after lining with brown paper, screwing them each way into the boards.

The door may have a latch or lock with a knob, but should in addition have two buttons on the inside, fixed so as to pull it shut tightly at top and bottom. A waste pipe should be attached to the sink and arranged to discharge through the floor. A cistern with pipe and tap can be fastened in the top of the dark room, if desired, or the room may be made with a flat roof, and a tank stand on it, though this is hardly advisable.

It is absolutely necessary that the room be well painted, four coats at first is not too many, and one coat twice a year will keep it in good condition.

A brick foundation should be laid so that no part of the room touches the ground.—*Popular Mechanics.*

EXTRACTS FROM OUR CONTEMPORARIES

Washing Prints with Soap.

A WRITER in *Photography and Focus* gives the following useful hint:—"Is it well know than when gaslight prints have discoloured whites, or are disfigured with stains, etc., a good deal of these can be removed by so simple an expedient as washing them with soap? I have not seen it recommended anywhere, but it is certainly the fact. A friend who knows nothing of photography jestingly recommended it to me as a remedy for some soiled prints, and in a similar spirit I tried it, putting them face upwards on a board as they came from the last washing water and giving them a good rubbing with a well-soaped flannel. It worked wonders, and except in very bad cases left them quite clean. I gave the prints a further rubbing with the flannel rinsed out in plain water, and a short washing to remove the traces of the soap, and do not see that they have suffered in any way from its use."

Studio Furnishing.

The British Journal of Photography states: We were recently present at a little meeting at which the question of furnishing the reception-room was being discussed, and a point interesting to photographers cropped up. It was the question whether it would be desirable to furnish the reception-room with chairs and tables which could be pressed into the service of the studio, or whether the furniture should be uniform in its character and suited to the decoration of the room. This is a very nice matter to settle, and much may be said on either side. In the particular case under notice it was decided that the furnishing

should be in one uniform style, but that a style which lent itself to pictorial purposes should be adopted, so that an occasional transfer to the studio could be made, but that none of the studio furniture was to be brought down in exchange. This seems to be a satisfactory solution of the problem, and greatly preferable to the common practice of making the reception-room the dumping-ground for all the furniture of which the photographer has become weary. Who is there who does not know the reception-room, once well furnished, which has been embellished by the addition of a gilt chair, a "smoking" chair, and one or two grimy specimens of wicker-work? We repeat, as the moral, that it is better to sell, exchange or give away anything that has served its time than to keep it for the purpose of making the "salon" look like a second-hand furniture shop.

A Method of Stripping Negatives.

A writer in *Photography and Focus* gives the following hint:—"It is an advantage sometimes to have a negative in the form of a film rather than a glass plate, so that it can be printed from either side. A glass negative can be stripped in the following way. The varnishing is essential, as without it the stripped gelatine film is much too flimsy to be handled without risk, even if it can be stripped at all without breaking. The plate must be soaked in water for two or three hours, then transferred to a mixture of glycerine 4 parts, formaline 30 parts, water 100 parts (all by measure), left in this for three minutes, and put on one side, without washing, to get quite dry. When dry, it must be varnished with a solution of celluloid in amyl-acetate and acetone, which should be of a creamy consistence. A liberal coat should be given, and the plate left on a levelling stand until the solvents of the varnish have quite evaporated. When the film is perfectly dry, a cut is made through it to the glass beneath, close to the edges, and then one corner being raised with the edge of the knife, it is gently peeled off the glass. Such films should be kept flat under gentle pressure when they are not actually in use. The varnish may be made by taking celluloid negative varnish (that which smells of pear-drops is the right kind) and thickening it with cuttings of clean celluloid."

Negatives on Ultra-Rapid Plates.

While it is true, says *The British Journal of Photography,* that the multitude of printing papers of to-day conduces to poor negatives, by reason of carelessness in developing, in justice to assistants some few other causes may be suggested. Firstly, the modern ultra-rapid plates have not the same latitude in exposure that the slower plates formerly in use had, and the many operators who do not develop their own exposures are not as careful as they should be to expose correctly: the man in the dark-room has probably far more to handle in the time than was formerly the case when plates more easily developed were in vogue. Again, it is obvious that the dense negative with the clear shadows, which gave such luscious prints in albumen, were much easier to make than the softer negative with gentle gradations in every part, which is the ideal for bromide papers at the present time. A third point, and a most important one, is that in few cases is the assistant provided with a light by which he can comfortably examine the plate without risk of fog. Ultra-rapid plates undoubtedly require more care in development, and yet many assistants have to develop large quantities of varying exposures and all sorts of lighting effects in a light that is either absurdly dim.

Lost Treasure.

There are several methods of recovering the lost treasure. So far as papers are concerned, refuse prints and the like, it is sufficient to burn the heap and collect the ashes. For most of the liquid residues, one or other method of precipitating the silver and the gold which they hold in solution is available. The process which the French writer de-

scribes at some length depends upon the use of potassium sulphide to transform the silver and gold into insoluble sulphide. The liquids are collected, and small quantities of a solution of potassium sulphide are added, the quantities depending upon the reaction. The vessel is then left for twenty-four hours, and if after that time no more precipitate can be formed, the clear liquid is decanted off, fresh water poured in, and the process repeated. The final sediment is drained and dried, but its conversion into a metallic form—supposing the worker has thought it worth his while to get so far—is, of course, a matter for the expert.—*Amateur Photographer.*

The Wealth of Waste

"Save your waste-paper" is a device that greets us occasionally on the wagon of a rag merchant, and, of course, it is quite a platitude that the things we throw away are of greater value than the things we keep. A writer in *L'Information Photographique* is concerned to show us what photographers might make of their refuse. He points out that it has been fully demonstrated that only a very small quantity of the silver salts which enter into the composition of our emulsions are used in the formation of the photographic image. The remainder is eliminated, and dissolved in the fixing-baths, and the writer even ventures on an estimate of the hundredweights of silver, to put it modestly, which photographers, professional and amateur, annually send down the sink or put in the dustbin. It is quite possible to recover the whole of this silver, and many a worker in a large way would be agreeably surprised if he were to have an estimate made for him by a specialist of the silver and the gold that lurk in his dark-room waste.

Microscopic Cinematograph.

Work with the ultra-microscope has been much discussed of late—the ultra-microscope, meaning in plain language, a microscope and illuminating apparatus so arranged that smaller objects can be made visible than is possible in the ordinary way. Dr. Commandon has been quick to apply the cinematograph to the ultra-microscope, and is said by the *Photo-Gazette* to have obtained some extremely interesting animated photographs of the movements of living bacteria, etc. An intense pencil of light, from a thirty ampère arc lamp, is directed on to the object from the side, and thus one only gets in the eye-piece the rays reflected from the bodies of the organisms. Cold water is circulated in a glass tank placed between the lamp and object. A circular disc, with apertures perforated near the circumference, is rotated to effect the exposures, the disc turning in synchronism with the cinematograph.

The "vibragraph" is a new invention that makes photographic records of the vibrations produced by machinery, vessels, railways, and vehicles. The apparatus contains a cup holding mecury, upon which floats a small pivoted mirror. An electric lamp throws a tiny beam of light through a tube upon the mirror from which it is reflected to a revolving cylinder covered with photographic paper. The slightest vibration produces ripples on the surface of the mercury, and the movements of the floating mirror, magnified 100 times, are photographically recorded by the beam of light on the revolving cylinder. The records differ according to the nature of the disturbance, and range from a solid splash of light to an intricate mass of lines. The new instrument is expected to prove useful in testing marine engines, in the settlement of disputes arising from complaints of excessive vibration in the vicinity of engine-rooms, and in other fields.

To remove unseemly light patches in negatives, such as often occur in "At Home" portraits, rub down with a tuft of cotton wool dipped in methylated spirit, squeezed fairly dry, and then dipped in powdered pumice. This will also reduce too conspicuous foregrounds, etc., but is not safe for small catch lights.

FOSTERING OLD-TIME BELIEFS IN THE PHOTOGRAPHIC BUSINESS

BY GRACE C. RUTTER.

OLD fashioned people will still express a fear of "breaking the glass" or speak of "watching for the bird" when they come to be photographed, and it pays to foster their belief in these old time delusions. Strive to keep the details of your work a mystery rather than to throw open the dark room door and elucidate its gloom to your patrons. Should Miss B. see the unmounted prints of her "$6 a doz." soaking in the final bath, she would be likely to say, "Oh, is that my picture, those little pieces of paper, I thought they would be on those lovely large cards?" An unmounted print seems of no value, a mere trifle, and if you attempt to explain that they are still unfinished, she cannot understand, and is likely to go away with the impression that photography is such easy work, "just soak the pictures in water a little while," and may remark to her friends that she "cannot see why Mr. P charges such outrageous prices, etc.," to the sure detriment of business.

We frequently hear people say, "You cannot make pictures if the sun does not shine," when nearly all photographers use gaslight paper. Do not dispel the idea that a certain amount of luck or chance governs every photographic process, from exposure to bromide toning. Much better have an occasional poor negative blamed on "it just happened" than that your ability be doubted. In my first photographic days I resorted to any excuse before owning my ignorance—when it was that and nothing else. More than one negative, after development showed it was hopeless, I have let drop to the dark room floor and shatter into as many pieces as it would; the sitter was told that I broke it before I got his pictures made, my conscience was salved, and I made another exposure, gaining by my former mistake. I never said to anyone that a poor negative was because I did not know how, and I gained much trade thereby.

My rule is to show only good work, and the occasional poor pictures, while to many people they would look all right, are destroyed. Should I let them get into circulation, some experienced eye would condemn them, causing me to lose more than another sitting costs. A customer must be satisfied, and I must too—unless both are, it appears a poor deal to me. If I know the work is good, and he is not pleased, or if I know the work is poor and he is satisfied, it is the same to me—there must be another sitting.

It is well to lead people to think that photography is a slow process, requiring much time and painstaking labor. What fraction of regular rates would they be willing to pay if they knew an exposure could be made, negative developed, fixed, washed and dried, and a print made therefrom in an hour? A small one, indeed. Then cherish the delusions, and gather in the money that we earn. They are willing to pay more, the longer they are required to wait. This is why I often tell people that their pictures are not ready for delivery, when they call before the time specified, and the only finish they need is slipping into an envelope.

In this day of "kodaks" in every other house it is hard to keep our processes as quiet as once, and we all know how prices of finished work have dropped since the advent of the "you press the button, we do the rest" process. However, it is easy to see a great difference between the many-legged, black-swathed, mysterious, anastigmat-equipped camera under the skylight and the little, two by twice black box in the school boy's hands. They use films, and we use plates, theirs is the snap-shot method, ours calls for careful handling, experience and a skilled formula, resulting in artistic work.

I had an experience a year ago which I would not believe, if I had not ex-

perienced it. That such ignorance of photographic methods exists nowadays is unbelievable. I was talking to a friend, and mentioned casually that we used square glass plates to take pictures on. She was a large hearted soul and willing to help her worst enemy (but she didn't have any). My remark prompted her to a generous action, and she went to her cupboard and brought out a square glass bread dish, offering to let me have it to use. Can you imagine my amazement? I hardly think you can for I cannot describe it, and yet she would not be called an ignorant person, and she reads the daily papers. If there is an expert photographer on the staff of this paper who would like to undertake to convert that bread plate into a negative, let him come forth, for she is still waiting, as I had to decline the job, and her heart is as large as ever.

ENTHUSIASM

ENTHUSIASM is the best tool in the kit of the man who wants to get there.

Without it he may make a dent, but he'll never do much more.

He may have ability, he may have personality, he may be filled with a desire, but if he lacks enthusiasm, any bookmaker would give you five to one against him in the race towards success.

No man can be enthusiastic unless he believes that he is doing the one thing that it is best for him to do, not always, but at the time.

No man can be enthusiastic unless he thinks, looks ahead and truly visualizes the possibilities of his job.

The true enthusiast most clearly visualize the future, and does.

Enthusiasm must be based on a clear knowledge of where you're going and a firm determination to get there. Enthusiasm will make the forward movement easy.

A shoe manufacturer asked me to talk with and size up a young man he had slated for a job on the road.

The young man called on me. He was bright and prepossessing—the kind of a fellow that ordinarily makes a hit when he enters your office—not a home run exactly, but you know he's at the bat.

"Do you want to go on the road?" I asked.

"I haven't quite decided," he replied And the striker was out.

"I wouldn't advise Mr. Blank to put a man on the road," I said, "who hadn't made up his mind that there was just one thing he wanted to do more than anything else, namely, to go on the road for Mr. Blank."

I don't object to a young man viewing each job that he tackles as merely a round of the ladder of progress, but I do insist that he shall look upon each job as absolutely the only round he should put his foot on.

He must be satisfied that the step he is about to take is taken in the right direction and at the right time. Enthusiasm and doubt are sworn foes.

A man may overcome error, he may lack judgment and acquire it, he may make mistakes and remedy them, but he can do none of these things without enthusiasm.

Enthusiasm comes from a belief in one's self and a belief in the things one does.

If it's a piece of printing matter you want to sell, make up your mind that it's right before you try to sell it and your enthusiasm will add to its value in the eyes of your customer.

There is a difference between enthusiasm and bluff—bluff sometimes masquerades as enthusiasm, fools the pitcher, makes a sacrifice and gets to first, but when enthusiasm goes to the bat, the grand stand is on its toes, for it knows that a high average man is at the plate.—*A. Booster, in Ambassador.*

PHOTOGRAPHS FROM A ROCKET

It takes an active imagination surely to see any sympathetic relationship between a skyrocket and a camera—so boisterous is the one, so delicate the other; but the feat was not beyond the powers of Alfred Maul, who has linked the one to the other in a happy copartnership.

The rocket-camera, as it might be called, was designed for military purposes and was demonstrated before the German military authorities with such success that it has been officially accepted. The problem was not an easy one, says the *Scientific American,* and the inventor claims to have been trying to yoke up these two very dissimilar things for some twelve years, for it has taken that time to bring the device to its present undoubted perfection.

The apparatus is described as consisting of a camera held in a pointed hood, at the top of which is a pneumatic electric contact, and a holder which contains a parachute and the upper part of the rocket. On the top of the holder is a gyroscope which serves to maintain the camera in the desired position for the snapshot. The stick of the rocket is about fifteen feet in length, and it is fitted at its lower end with wooden feathers. The whole rocket is twenty feet in length and it weighs about eighty-four pounds. The camera is capable of taking eight by ten inch plates.

For giving the proper direction in firing the rocket is mounted in a special form of "gun carriage," which is mounted at the apex of a stout triangular base, and is capable of being elevated through any range from the horizontal to 90 degrees. When the rocket is fired electrically (from a distance of about 200 yards) the gyroscope is started, and in about eight seconds time the rocket with the camera reaches a height of about 2,600 feet.

When the rocket is turning at the highest point of its trajectory, the camera being held in the proper direction, covering the field of view, by the gyroscope, the camera shutter is released and the photograph is taken. At the same moment a parachute which forms part of the apparatus in the head of the rocket, is set free and the rocket divides into two parts.

Portrait for March contains, as usual, a number of good things for the professional photographer. Felix Rayner's article, this month, is on the use of a side-screen for white draperies. The cover portrait and Hall of Fame is devoted to Berger & Son, and the number concludes with the following practical description of how to remove hypo and yellow stains from cyko prints.

"The yellow stains on prints may be removed by immersing them for about ten minutes in the following solution:

Water ..... 10 oz.
Neutral oxalate of potash..... 2 oz.

After immersion the prints should be rinsed in running water.

Hyposulphite of soda can, however, be eliminated by the following method:

Give the prints one change of water after taking them from the fixing bath and transfer them to a solution of

Water ..... 1 gal
Peroxide of hydrogen (20 volum) . 1 oz.

After allowing the prints to remain for ten minutes in this solution give them three changes of water and dry.

The water in many towns contains either iron salts or sulphur, and in consequence photographic prints are liable to become stained. Should any photographer be confronted with difficulties of this nature the experience of our professional department is at their service.

LATEST MARVELS OF INVISIBLE LIGHT

By far the greater proportion of the discoveries in natural science up to the present time, observes Professor R. W. Wood, holding the chair of experimental physics at Johns Hopkins, have depended upon observations made with the eye. The eye has, indeed, been aided by means of optical instruments. The eye is, however, sensitive only to a very small part of the total radiation reaching it. It seems not unlikely that, if its range could be extended, many new phenomena would immediately come to light. By the employment of photography and of instruments which detect and measure the intensity of the infra-red or heat rays, much new information has been gathered, especially in the science of spectroscopy. Usually, however, these methods have been applied only to cases where the individual radiations were known to be present. It seems to Professor Wood to be probable that if photographic methods which excluded the action of any but invisible rays were applied to various physical phenomena, new facts would be discovered. He illustrates his meaning by taking two striking cases which were found at the outset of his investigations.*

If the finger be dipped into powdered zinc oxide and rubbed over a sheet of white paper, eye observation is absolutely unable to detect the presence of the streaks made by the white powder, unless it has been very thickly applied. If, however, we photograph the paper with ultra-violet light we obtain a picture in which the streaks are as black as if made with powdered charcoal. This suggests that if we apply the process to the photography of the moon and planets we have some reason to suspect that substances which cannot be detected visually may come out in the photographs—a surmise which has been justified in one case at least.

"As an illustration of how the method may be applied to the investigation of various physical phenomena we may take another interesting case, in which a new radiant emission from the electric spark has been discovered. It was suspected that the very short waves discovered by Schumann, which are powerfully absorbed by air, might possibly render the air flourescent, the emitted light being invisible, however, on account of its short wave-length. A heavy spark discharge was accordingly placed behind a small disk of metal, which cut off all the direct light, and the surrounding region photographed with a quartz lens, which is transparent to the ultra-violet rays. It was found that the air in the neighborhood of the spark actually did give off actinic invisible rays, the photograph giving the impression of a luminous fog surrounding the metal disk."

Practically all sources of light in ordinary use give out more or less ultra-violet light, which plays no part in vision, but which can be rendered apparent in various ways. If an object to be photographed gives off visible rays in addition to the invisible ones, it is necessary to remove these by a suitable screen or ray filter. From this standpoint Professor Woods considers some remarkable effects obtained when sunlit landscapes are photographed by means of the obscure rays at the extreme red end of the spectrum. A screen can be prepared which transmits these rays and is at the same time opaque to all other radiations, by combining a sheet of the densest blue cobalt glass with a solution of bichromate of potash or some suitable orange dye. Such a screen transmits a region of the spectrum visible to the eye if all other rays are cut off. It is so feeble in its action, however, that it plays no part in ordinary vision, being overpowered by the other radiations. We may hence, for convenience, call photographs made through such a screen infra-red pictures; though the infra-red region is usually considered as beginning at the point where all action upon the

* Lecture Before the Royal Institution of Great Britain, London: Proceedings of the Royal Institution.

human retina ceases. Photographs were taken through such a screen. The time of exposure was about three minutes.

When we take up the subject of photographs made with ultra-violet light we find the conditions reversed, for practically all these very short waves are scattered by the atmosphere and we have no shadows even in full sunlight. Considering, however, the series of infra-red pictures, Professor Wood notes, that some show the advantage gained in bringing out the detail of distant objects seen through the atmospheric haze. It does not then seem quite impossible that photographs of the brighter planets made through an infra-red screen might prove interesting, if the planets are surrounded by a light-scattering atmosphere. For we must bear in mind that the surface of the earth as seen from a neighboring planet would be looked at through a luminous haze, equal in brilliance to the blue sky on a clear day. It would present, that is, much the appearance that is presented by the moon when seen at noonday.

We have now, however, to consider how things would appear if our eyes were sensitive only to ultra-violet light. In applying the same method used for the infra-red we require a screen opaque to all visible light, but which transmits the ultra-violet.

Glass is opaque to these rays, cutting them off almost completely. For this reason we cannot employ glass lenses. Quartz, on the other hand, is exceedingly transparent to these invisible rays, but it is a little difficult to find a medium which is transparent to them and at the same time quite opaque to visible light. Indeed, there exists only one substance known which completely fulfills such a condition, and that is metallic silver. If we deposit chemically a thin film of metallic silver on the surface of a quartz lens, a certain amount of ultra-violet radiation is able to struggle through and form an image on the plate. Professor Wood has used silver films through which the filament of a Tungsten lamp is invisible. If the objects to be photographed are illuminated with the light of an electric spark or some other source, rich in ultra-violet rays, much thinner films of silver can be employed. In the case of sunlight, however, which has passed through the earth's atmosphere, the ultra-violet in the region for which silver has its lowest reflecting power and greatest transparency has been so tremendously weakened by atmospheric absorption that it is necessary to employ thick films and long exposure. Otherwise the action upon the photographic plate results chiefly from the violet and ultra-violet rays, which are capable of traversing such a medium as glass.

Professor Wood takes up the action of our atmosphere on these ultra-violet rays. He has made two photographs of a man standing in the road in full sunshine, in the one case by ordinary light and in the other by ultra-violet radiation. In the latter the shadow is completely absent.

"Ultra-violet behaves in exactly the opposite way to the infra-red. The infra-red rays are enabled to drive through the atmosphere without being scattered laterally by the molecules of the air or the dust particles. The short or ultra-violet rays, on the other hand, are completely scattered, so that the greater part of the ultra-violet light which reaches the surface of the earth comes from the sky and not directly from the sun. If our eyes were sensitive only to ultra-violet we should find the world appearing not greatly different from the aspect which obtains at the time of light fog. We should, indeed, see the sun, but it would be very dull and there would be no shadows, just as there are none on a foggy day. We should walk the earth like Peter Schlemihl, the shadowless man of the German fable."

A class of work in which this comparative study is likely to be of service is the photography of celestial bodies. For the full moon the exposure through the silver screen was two minutes with ultra-violet light. This length of exposure necessitated an equatorial telescope with some means of driving it to compensate for the movement of the moon.

The support for Professor Wood's telescope was the framework of an old bicycle minus the wheels. This carried a four-inch refractor and a quartz-silver telescope. By the operation of a little screw it was possible to follow the moon accurately for half an hour.

"There is very little difference between the ordinary image of the moon and the one which is shown us by the ultra-violet radiation. Nevertheless, in the neighborhood of Aristarchus, which is the brightest crater on the lunar surface, the photograph taken with the ultra-violet rays shows a dark patch which is absent on the one taken with visible light. I made an enlargement of the region in which this crater appears, and it is evident that there is in its neighborhood a large deposit of some material which can only be brought out by means of the ultra-violet. These photographs of the moon make it appear extremely probable that by carrying on experiments of this nature on a larger scale we might get a good deal of new information as to the materials of which the moon is composed. It is possible to examine the igenuous rocks of the earth under the different radiations, and then compare them with the pictures of celestial objects obtained at the same wave-lengths. I have found that some rocks, which when illuminated by ultra-violet rays appear darker than others, are lighter than the others in visible light."

An important line of investigation which Professor Wood recently carried out illustrates how new discoveries may be made by the aid of ultra-violet photography. It occurred to him that the air surrounding an electric spark might possibly be rendered fluorescent by the absorption of a very short ultra-violet wave discovered by the physicist Schumann, but that the fluorescence might be made up wholly of ultra-violet light, and consequently invisible. Professor Wood therefore photographed the region surrounding a powerful spark discharge with a quartz lens shielded from the direct light of the spark by a circular disk. The photograph, when developed, showed a highly luminous aureole surrounding the spark and extending out in all directions. It was now necessary to prove that this was not light scattered by the dust particles in the air. To do this we have only to photograph the spectrum of the aureole. If it is similar to the spectrum of the spark we are safe in attributing it to scattered light. If it differs, we know that it must be fluorescence or the genesis of waves of different wave-length from any present in the light of the spark. A photograph of the region surrounding the spark was made with a quartz spectograph and it was at once found that the spectrum was wholly different from that of the spark. In fact, it was almost identical with that of the oxy-hydrogen flame.

Many weeks have been spent by Professor Wood in an attempt to determine the exact origin of this mysterious radiation and the question has proved most baffling.

"For the further study of the phenomenon a piece of apparatus was devised by which the light of the spark could be more effectually shut off. A small hole was bored through a plate of aluminum fastened to the end of a short vertical brass tube. This plate formed one electrode, the spark passing between an aluminum rod lying along the axis of the tube and the underside of the plate at the point perforated by the hole.

"In a perfectly dark room, if the eye was held a little below the plane of the plate, no luminosity could be seen in the air above the hole, if it was reasonably free from dust, yet a photograph taken with a quartz lens showed a bright beam, or squirt, of light issuing from the hole. The work is still in progress and many remarkable observations have been made, each one leaving us more in the dark than before."

It is thus apparent, Professor Woods observes, that by employing this "photographic eye" of quartz many new phenomena may be brought to light.

COPYING LINE WORK

BY JOHN BARTLETT.

THE copying of line subjects, such as engravings and documents, demands a different procedure than that followed when gradation of light and shade is desired. For line work the negative must have intensity and contrast. The dark portions of the original, such as the lines of a drawing or the writing of a document, should be represented on the negative practically transparent, "clear glass," as the worker says, and the high lights, that is the surface—generally paper—on which the drawing is made must be opaque.

Special plates are on the market suitable for this work. They contain a moderate amount of silver iodide with considerable silver bromide. For this reason a moderate, but not excessive, addition of potassium bromide is made to the developer.

I wish to set forth briefly my plan of carrying out line copying, and recommend it as giving, in my experience, better and more uniform results than the methods generally used.

I use a slow isochromatic plate. The copy, if matt-surfaced, is illuminated with light directly in front, so as to avoid shadow effects from the grain of the paper, which lateral lighting will cause. The exposure should be full, but not excessive, and the lens stopped down only enough to cut off oblique rays, which will act like diffuse light, and thus interfere with the desired result. The stopping should, therefore, be just sufficient to get the parallel rays from the copy.

It is well known that orthochromatic plates tend towards giving intensity in the negative. On this account a strong development is not desirable if half tones or a nice gradation is required. Hence for portraiture a somewhat dilute developing solution is to be used, especially with rapid plates, but in the work under consideration I recommend a rather concentrated developer, with, as noted above, only a moderate amount of pot. bromide—that is, less than the proportion usually employed. I use only hydroquinone, sodium sulphite, and potassium carbonate. The following formulas have been satisfactory.

A.

Hydroquinone	4 gm. or 60 gr.
Soda sulphite (dry)	15 gm. or ½ oz.
Water	300 c.c. or 10 fluid oz.

B.

Pot. carbonate	30 gm. or 1 oz.
Water	300 c.c. or 10 fluid oz.
Bromide in small amount.	

For use, mix equal parts of these and use without dilution. Allow the image to attain the maximum density, which may be readily judged by looking through it. If the plate is kept as much as possible from the ruby light during development, there is no risk of fog, and the action may be prolonged until the image is clearly seen on the back of the plate.

I wish to note here that hydroquinone is especially susceptible to temperature; a cold solution may be nearly inactive, therefore the temperature of the developing fluid should not be below 60 deg. F. (15.5 deg. C.) This peculiarity of hydroquinone should be borne in mind in making the solution.

When sufficient intensity is obtained, the plate is placed in a weak acid bath for a few minutes, rinsed, and fixed either in plain hypo or in the acid fixing bath. I prefer the plain bath, as I have found the acid fixing bath to produce at times a slight opalescence. A negative made in this manner rarely needs any further treatment for increasing intensity.

Orthochromatic plates have a special advantage over other forms in the copying of old manuscripts, which are apt to be yellow in the high lights. The orthochromatism here acts specially in securing a negative which gives a perfectly white background in the reproduction.—*From the "Proceedings" of the Photographic Society of Philadelphia.*

EDITORS' TABLE

THE class magazines in this country have become an important force. They are united in their efforts to accomplish something for the benefit of their readers, but they realize that they, themselves, cannot prosper unless their readers prosper first.

Now, if a man these days is to succeed he must have the best current literature covering his work. He must know what other men are doing and something of their methods, so that the wide awake magazines are waking men who have been asleep. Of course, a great many of these men have had a living from their work or their business, but they do not realize that it has been in spite of their methods rather than on account of them. It is the practical magazine that is showing them how far behind they stand in their particular line or field. Now every photographer who subscribes to an up-to-date, live magazine and reads it from cover to cover is going to be made to think and to wonder, and he will end by finding out. In a word, he is going to get out of the rut that has limited his profits and hampered his efforts. The men who are successful to-day are the men who know; men who study and watch the methods and changes of photography as demonstrated.

We believe the best magazine for the practical photographer is one which helps him most by giving him reliable information about his business methods of work, latest formulae, and which offers him examples of photography worthy of imitation and study. It is therefore a pleasure to announce that we contemplate beginning such a series of important articles, reviewing the work and methods of many photographers throughout the country, and presenting the finest examples of the best portraiture; also some new and profitable methods for the commercial photographer.

We are for expansion. Next month there will be another important announcement in connection with WILSON'S. It will be in the same general scheme of expansion along these lines.

THE death of the Rt. Hon. the Earl of Crawford, K.T., F.R.S., removes not only one of the most striking figures of the British aristocracy, but also a scientist of considerable distinction, a great antiquarian and bibliophile, and, not least, a photographer of no mean attainments. Photographically speaking, Lord Crawford belonged to an earlier generation. It is true that not many years have elapsed since he was taking an active part in photographic affairs, but generations succeed each other quickly in photography, and the nineties seem already to belong to a remote past.

It was in 1894 that Lord Crawford was elected a member of the Royal Photographic Society.

LEND us your ears for a few minutes, for we want to take you into our confidence.

In response to our open invitation for criticism and suggestions, a reader frankly writes: "I have spent one-half hour looking over the pages of WILSON'S, and all I can see is moss and barnacles between the lines!"

For nearly half a century WILSON'S has been a veritable guide for the photographers of America, and we will admit that it is not surprising that there are some evidences of age. However, there is a tide, even in the affairs of a magazine, when taken at the flood leads on, and this old established magazine is now taking the current where it will serve. It has a fixed place and purpose for the practical photographer, and while it will not be the policy of the editors to make radical changes, there will be from time to time many evidences of new life, with the elimination of the "moss and barnacles." Healthy, normal changes cannot be wrought in a day, but look for the improvements, for they are coming.

THE new Congress which comes in with the new National Administration is expected to make some radical changes in the tariff laws of the country. It is generally understood and agreed that there is to be a reduction in the tariff duty on many of the necessities of life. "Infant industries" that have outgrown their infancy are to have the protection which they have enjoyed for so many years, removed. Manufacturers who have sold their goods abroad at a lower price than the same goods are sold for at home and incidentally for a lower price than they can be manufactured for abroad, are to be compelled to get along without the paternal assistance of the tariff, and everybody is to be happy and prosperous.

TRADE NOTES AND NEWS

HOME PORTRAIT REFLECTOR.—With the increasing popularity of home portraiture, the demand arises for convenient apparatus which the photographer can pack in a very small space and carry into the home of the customer. One of the most important things is a good reflector, and the most convenient piece of apparatus which has come to our notice is the Eastman Home Portrait Reflector. The telescoping stand is about the size of the ordinary music rack when folded, and measures 8 feet 6 inches when extended. The reflector is of opaque Holland shade cloth, which will reflect the maximum amount of light. An adjustable rod holds the reflector at any angle, and when not in use, it is rolled up and placed with the carrier in a neat bag. This is an ideal reflector for the home portrait photographer.

COLOR SENSITIVE PLATES.—Much interest has been aroused in the subject of color separation as applied to commercial photography, since the introduction of the Wratten and Wainwright Color Filters and Panchromatic Plates by the Eastman Kodak Co.

Every photographer knows the limitations of the ordinary plate in reproducing colors as they appear to the eye and their lack of sensitiveness to reds in particular.

With the Wratten Panchromatic Plate and the proper filter, any colored object can be reproduced in just as brilliant contrasts in the photographic negative as one sees in the object itself, and where it is desirable, the contrasts can be exaggerated to suit the particular subject.

The results are really wonderful, especially in showing the grain of wood in furniture, and while longer exposures are always necessary where filters are used, the negatives are well worth the trouble, and the customer who wishes the best results will pay your price for them.

The Wratten and Wainwright Plates and Filters are to be manufactured in Rochester, but for the present are being supplied to the dealers from the English factory by the Eastman Company.

INDIVIDUALITY.—The new albumen paper, Zelta, offers unusual opportunities to the photographer who wishes to get away from the more ordinary results and offer his better customers better work at a higher price.

To be sure, it takes a little longer to make an albumen print, but the manipulation is simple, the results certain and the individuality of the print makes the effort worth while.

Zelta prints are not only appreciated, but command a higher price, because they cannot be successfully imitated. The wide range of tone offers the greatest opportunity for the expression of each worker's individuality.

Your stock house has it.

FRANK G. WILCOX, of Kansas City, Mo., has received a United States patent for a new photo paper having the sensative emulsion on both surfaces, and so treated that images may be produced on both sides without the one interfering with the other. This photo paper is intended to be used in making copies of documents and especially for public recording of deeds, in which work the record should be an exact copy of the original. By photographing on both sides there will be considerable economy in the size of the record books over the single side photographic process which has been recognized by some of the States as a valuable method for this purpose. If recording by photography is adopted generally it will avoid the errors of the copyist, which cause so much annoyance to property owners.

THE "Agfa" folks have a new surprise for the photographic trade. It's the "Agfa" *dividend to their customers.*

Better send in your request for one if you use "Agfa" products, and if you don't, send anyway, and you will.—Berlin Aniline Works, 213 Water St., New York, N. Y.

MR. S. L. PREBLE, of Waterville, Me., is honored by *Portrait* for February, which prints an excellent portrait of this veteran photographer on its front cover, and contains an interesting account of Preble's photographic career under their "Hall of Fame." Preble is an old-timer, dating back to 1876. He can not only "shoot with the camera," as the account truthfully asserts, "but also with a gun, which is evidenced by the fact that he held the State Championship for Maine, and was also the amateur holder of the United States title as Marksman.

THE next convention of the Professional Photographers' Society of New York State will be held in Buffalo. The organization has always met in New York City and an amendment to the constitution was necessary to permit the meeting in Buffalo. The important convention was brought to that city through the efforts of Howard D. Beach, who was elected president of the State organization, and the convention bureau of the Chamber of Commerce.

The photographers will meet next February in Buffalo, with 200 delegates in attendance.

THE Falk Convention held by the Professional Photographers' Society of New York at the Metropolitan Life Insurance Company's assembly room, on February 12th, 13th and 14th was conceded the best ever held by the New York State Convention. There were some 225 members in attendance and everybody took an active interest toward making the meetings a success.

The program was most interesting. Messrs. Hargrave and Elliott made daguerreotypes for the members in the old-fashioned way, showing the vast difference between the old methods of producing a portrait and the modern manner. Messrs. Bangs and Hallen produced an enlargement from a cabinet picture in fifteen minutes, and both Core and Hollinger showed some new studio wrinkles which were much appreciated by the younger element.

The exhibit was impressive. Outside of the regular state exhibit, which was not limited to one picture as heretofore, there was an invitation exhibit from the best men in the country. There were hundreds of pictures on display, fulfilling the claims of the Committee that it would be the best exhibit since the days of Celeron. Among the exhibits, that of Hutchinson, of Chicago, was judged finest by universal consent. Other prominent exhibitors were Kajiwara, Garo, Falk, Pierce, Stein, Towles, MacDonald, Mix, Bradley, Strauss-Peyton, Ellis, Julius Strauss, Lersky, Beach, Hollinger, Core, Cairnes, Phillips, Goldensky and Noetzel.

A new feature was the Comparative Exhibit, this being made up of a series of prints from seven selected negatives, the prints being by all the leading paper manufacturers. Thirty-seven different varieties of paper were shown in this, each variety being shown on the seven negatives. This gave the members a unique opportunity of judging the different qualities of the papers, and as they were all made by the manufacturers themselves, it was a fair test, and extremely instructive.

The beefsteak party at Healy's was a great success. There were no speeches, but a splendid entertainment was given instead, and when the party broke up in the small hours the guests were unanimous in their expressions of appreciation of the hospitality of New York photographers.

The next convention will be held in Buffalo. H. D. Beach was elected President by acclamation. The other officers are as follows: Vice-President, Fred Robinson, Ithaca; Secretary, R. R. McGeorge, Buffalo; Treasurer, F. E. Abbott, Little Falls.

THE Executive Board of the Ohio-Michigan association met at the Boody House, Toledo, Ohio, February 3, 1913. All the members of the board were present, as well as several of the ex-presidents. The dates for the coming convention are August 5th, 6th, 7tth and 8th, and a program of unusual interest and something entirely different has been decided upon. It was decided to have two cash prizes for the best pictures exhibited. First prize at $200 and the second at $50. Full particulars in regard to this will be published later. Banquet will be held in the evening, Thursday, August 7th. A portion of each day's session will be devoted to personal experience meetings. These meetings will be in charge of various well-known men in the profession. Any subject can be brought up and discussed in an informal way. Every one is expected to take part in these meetings. Personal experiences are worth more and remembered longer than an address.

Committees were appointed as follows:

Publicity—Will A. Triplett, J. C. Abel.

Publication of Annual—Frank R. Bill and Geo. D. Smith.

Banquet—Frank Scott Clark, Frank R. Bill, E. G. Herrick, Gustav Beck.

On Exhibition—Frank R. Bill, Frank Scott Clark.

Reception Entertainment—J. G. Ryser, W. A. Bishop, B. Frank Moore, Geo. Edmindson, W. F. Van Loo, Lewis Imes, A. Renschler, C. Hoppe, Thos. Palthorpe.

Buttons and Pins—Will A. Triplett.

Rules for Exhibitors—Frank Scott Clark, Frank R. Bill, Will A. Triplett.

WE take pleasure in announcing a Six-Fax Exposure Disc, a recent invention which The Burke & James Co., Inc. are placing on the market. It is the simplest and yet the most scientific exposure meter of this type invented, its calculations being based on the six facts which determine the correct exposure; namely:

1. The speed of the plate or film in use.
2. The size of the opening.
3. The strength of the light.
4. The character of your subject.
5. The time of the day.
6. The time of the year.

Notwithstanding the number of facts which have been taken into consideration to obtain the reading, with the dial set at the time of the day and year a single turn of the Disc gives the correct exposure for any outdoor subject, for any stop, whether expressed in the F or Uniform System. The correct exposure for all stops is shown simultaneously, which will often assist the user in selecting the stop best suited to the subject. Also the exposure is read without calculation or reference to special tables, as is the case with all reliable meters of this class.

It sells for 25 cents and will be handled by all dealers.

THE thirty-third annual convention of the P. A. of A., which is to be held at Kansas City, July 21st to 26th inclusive, ought to be the best ever held in America.

At this early date it would be unwise to make any estimate as to the attendance, or to boast of what will happen in Kansas City in July, but one thing may honestly be said by the most conservative and that is, the 1913 convention ought to be the best ever held by the Association, for the following reasons:

First. It is to be held in the heart of the Middle West, in a city second to none of its size in the world.

Second. At a time when most photographers are not busy and prosperity reigns supreme. Never before in the history of photography has the profession stood at a higher water mark.

Third. Every State Association in the Mississippi Valley has decided to hold their meetings in abeyance and join in making the Kansas City convention an enormous success. Hundreds of photographers who have never before attended a National Convention should lay plans to make this their summer vacation. Special trains should be planned for transportation from all of the States, North, East, South, West and from the Middle States.

Fourth. The officers of the Executive Board are arranging a program along practical lines which will appeal to every one in the profession from a financial, artistic and technical standpoint. This embraces every live, wide-awake man in the business, big or little. Announcement of these arrangements will appear in detail later. Watch for them.

Fifth. We have the undivided support of the manufacturers, dealers, and the photographic press, which insures thorough publicity.

The entertainment will be handled entirely by the local committee and among the important features provided by this committee will be an opportunity for every member to tour in automobiles the beautiful boulevard system of Kansas City.

Let every photographer who is interested in the advancement of his own interests as well as in the development of his own profession, now join hands and help boost this great convention in July.

President Townsend has received word from Illinois that there will be three trainloads from that State alone, also word from the Colorado boys, that arrangements have been made with the Inter-Mountain Association to hold their meeting in abeyance and join with the other State Associations in swelling the attendance of the National, and the president desires to take this method to thank not only the Illinois Association but all who have acted in accordance with this spirit, especially the officers of the various associations, and would urge that they consider themselves a committee to arrange for the transportation of special parties. Convention hall being so large makes it possible for the Executive Board to provide special headquarters for every State, and one afternoon will be left open on the program for meetings of the State Associations in various parts of the hall. These State officers will be introduced at the opening meeting, and, taking everything into consideration the success of the 1913 convention is already assured.

An announcement has been made to the common shareholders of the Eastman Kodak Company, by Mr. George Eastman, President, that a resolution will be presented at the forthcoming annual meeting, authorizing the setting aside of $500,000 for the payment of wage dividends to employees of one year or more service. This amount will represent 35% over the usual 10% paid to the common shareholders, and is similar to the dividend paid to the employees of this great corporation last year. The dividend will be distributed to the employees all over the world on July 1st. Mr. Eastman, who has been cruising in the West Indies, on the private yacht Virginia, accompanied by a party of Rochester friends, returns to Rochester the middle of March after two months' absence from that city.

The executive board of the P. A. of N. E. met in Springfield, in the studio of D. J. Bordeaux, Feb. 11th, to arrange for their next convention, but owing to the failure of "The Powers" in Springfield to keep the promise of a free hall for the convention as given the association at Bridgeport, it was voted to hold the next meeting in Mechanics Hall, Boston, Sept, 2-3-4, 1913.

We note, with regret, the death of Henry Clay Price, who for many years was connected with the Scovill & Adams Company, manufacturers and dealers in photographic supplies, as their chief expert. Mr. Price made many important improvements to photographic apparatus and methods of work, and was the author of perhaps the most popular text book ever written on photography, "How to Make Pictures," which ran through many editions, and had a very large sale.

Mr. Price was originally a civil engineer, and gave up a lucrative practice to enlist in the Eighth Volunteers of New York at the beginning of the Civil War, becoming its first lieutenant. He soon became acting captain, and commanded a regiment of colored troops at Fort Wagner. He served until ill health compelled his retirement, when he was honorably discharged.

Henry Clay Price was for many years a familiar figure in photographic circles, and his name was widely known by readers of photographic publications. He died, Tuesday, February 11th, in the seventy-fourth year of his age, on his farm near Middletown, N. Y., where he had been living in retirement for a number of years. He leaves a widow and three sons.

By Alice L. Becht, Cynwyd, Pa.

See "Home Portraiture and the Child."

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

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HOME PORTRAITURE AND THE CHILD

BY ALICE L. BECHT

"HOME Portraiture" surely was a happy thought, inspired by the Little Folk and their needs. It is all very well for *you* to go into strange surroundings, where you meet a strange man and his assistants, who drape a strange, mussy scarf over you and then drape *you* over a strange chair; or, mayhap, they give you some strange paper roses to admire, as though you had but just plucked them.

Yes! for you who have been in the world many years it is all right; you are dramatic enough to know your part and try to act up to it (even should the result not be YOU).

But the Little Folk feel more like themselves in their own home. Who ever knew a child to be *natural* in strange surroundings? They are either nervously boisterous or sullenly quiet. Therefore, the combination of child and Home Portraiture is ideal.

At home the youngsters are absolutely unconscious of surroundings—everywhere is what they see every day—nothing to inspire terror or timidity. All their own precious toys to play with; their own windows to look out of for the "horsie"; their own little chairs to sit in, or dolls to rock and trains to run. Everything familiar.

In all this easy sameness there is just one strange thing introduced—the photographer. For just a moment or two this strange presence *is* disconcerting to a child; he runs for shelter to parent or nurse. So a Home Portrait Taker's first move, is to become "one of the family."

For my own METHOD? Well—at first—I find it better not to *see* the child, seemingly; not to notice it; no effusion; just talk along naturally to the others present; laughing and disposing of my camera and wearing impediments.

This gives a chance for the first awe to wear off, when out they come boldly and watch that most interesting proceeding of getting the tripod on its three uncertain legs. This gives you a fine opening for starting up the conversation and getting your bearings. You are *taking in* the child.

Soon they have forgotten your errand "to take their picture," and, losing all self-consciousness, become absorbed in the camera and you. (All the *boys* always want to press the bulb and look *in* the lens.)

It is a fine move to go to the play room —possessing the little hand if the child seems demonstrative—and admire *all* the toys, but selecting only a few.

Talk *down* to the *children; act* down to them; not "monkey shines" (heaven forbid!), but make them forget your years by forgetting them yourself; but, above all, talk good common sense; be matter of fact and easy—chummy, if the child's nature responds to it.

Coaxing a child who is stubborn accomplishes nothing. Ignoring them is the best way, meanwhile keeping up a conversation with others of the family, until, with a lead from them you hit *the* subject, and 'round they come eager and ready to be noticed.

From the many hundreds of children I have photographed, only one, a little girl of six, refused absolutely to behave. She screamed when I went in the front door, and sat with a pillow over her face or her back resolutely to the camera the while I took her mother and baby brother (but we all know what she needed; had needed for years).

Infinite patience you must have with children; not to a *certain point,* but to the "last ditch." Here is the idea: The parent *wants* the child taken; you *want* to take the child (if you don't *want* to take the child for pity sake don't attempt it), and the child may or *may not* wish to be taken. In any event, you undertake to get a picture of the child; then, *why* give up; *why* should your backbone soften if you lose a few plates because the child moves? Of course the child will move; you expect it to if it is a real, "live wire" kind; they are the interesting ones. Get them and you get *action in repose;* but you'll need to use your wits.

There is, without doubt, a "psycological moment." Be on the watch for it, magnetic fingers on the bulb. *Something* holds the child's attention. There comes a lull—a long—quiet—feeling. I hope you got it, for by this time the spell is broken and the child is laughing and squirming again.

Sometimes you will misjudge the moment; just a shade too previous or a shade too slow; but not always will you miss, and success with a home portrait of a child is spelled with a large S.

If a child does not wish its *own* picture taken, yet it never fails to fall for holding its pet toy to have a picture of that. What boy with heart so dead that he would refuse to help to get a good picture of his Teddy bear, or what little mother would not willingly hold her dolly "real still" while you take it? If you expect to sit a child in a chair with a toy, and have it stay there while you rattle off a dozen plates, why, home portraiture is not your vocation—back to the gallery for you. There you will have all the light you want; a bench in a certain spot under that light (never mind if the child thinks it hard and uncomfortable). You'll soon know its position so well you can train your camera on it with your eyes shut; and there you'll have plenty of room to caper around in and all the assistants necessary to keep the child interested, or terrified, according to its temperament.

But—if you have a good working knowledge of photography;

If you are able to go into a home and quickly take in at a glance or so its lighting possibilities first, and artisitc possibilities second;

If you can adapt yourself to child nature and can gauge disposition and the best method of approach;

If you can quietly ingratiate yourself into that child's *good* graces by being one with it in its interests—forgetting self in unobtrusive study of the child—making the child forget itself in its deep interest of you and your doings and sayings;

If, furthermore, you believe in finishing what you undertake (else why begin at all?);

And if, finally, you truly love children; their little poutings and rebellious tears, as well as their sparkling eyes and dimpled cheeks;

Why then, you will succeed as a home portrait taker of children.

And right up on the top rung of the ladder of fame will be found good seats. No strap-hangers there as yet.

SOME PHASES OF PIGMENT PRINTING

BY CASPAR W. MILLER, M.D.

(Condensed from a paper read at the meeting of The Photographic Society of Philadelphia, February 12th, 1913)

WHEN bichromated gum is exposed it assumes first a semi-soluble, then a semi-resistant condition very different from the definite, hard tanning which gelatin undergoes; and it is this behavior of gum which largely explains the production of half-tone in a gum print exposed from the front and developed by friction. The exposure is so timed that the light penetrates the gum-pigment everywhere quite through to the paper, thus making the entire coating insoluble; but the film acquires the power of resisting abrasion according to the degree of light action each portion receives. Under the thin parts of the negative the exposure is sufficient to cause the film to resist the brush entirely; in the half-tones the tanning is less thorough, and more or less of the pigment can be removed; under the most dense parts of the negative the film will be only slightly resistant, and the lights may be brought up to white paper if desired.

This method of reproducing half-tone is satisfactory only in proportion to the thinness of the coating. It has been assumed that the film be everywhere sufficiently exposed to render it insoluble all the way to the paper, but the time of exposure to accomplish this end will evidently vary according to the differences in the thickness of the layer of gum; therefore, in order that the thin spots covering the high places of the paper texture should not become too much exposed before the gum has become glued fast at the low places, the paper should present little irregularity of surface, so that the film may everywhere have about the same thickness; also that thickness should be kept as slight as possible because the surface of the gum must not become very hard before the light action has reached the paper.

In ordinary gum printing this ideal of a uniform thin coating cannot be very closely realized for the following reasons. It is not practicable to use a very smooth paper because it is difficult to coat, the tendency being for the pigment mixture to follow the brush rather than remain distributed over the surface; neither is it possible to make a very thin coating, because there must be a fair amount of gum in the mixture in order to prevent the pigment from producing stain by becoming permanently embedded in the fibers of the paper, and on this account the viscosity of the mixture must be too great to allow a very small quantity of it to be extended over a considerable area. When dry paper is being coated a fair quantity of mixture must be taken because its water is rapidly absorbed by the sponge-like action of the paper, so that at each instant the consistence becomes stiffer and less mobile. These difficulties are overcome by coating damp instead of dry paper, as suggested by the writer to this Society[1] at its meeting, October 10, 1900. Paper which has been placed in water for a short time, then squeeged and freed from surface water by light wiping, is easy to coat even if rather smooth, and extremely little coating mixture need be used because there is practically no absorption of water, the pores of the paper being already almost saturated; indeed, the water seems rather to be taken up by the coating and act as a lubricant facilitating the spreading of the small amount of gum applied. As a result very thin coatings can be made and good half-tone and detail obtained.

If we are to apply the pigment and colloid at the same time, probably no better method has been proposed to make a very attenuated coating. There is, however, an entirely different plan which offers even greater possibilities.

[1] Miller, *J. Photo. Soc. Phila.*, Oct.-Nov., 1900, 49.

We may coat the paper twice, first with at least a part of the colloid, then with the remainder of the colloid and the pigment. This was apparently first done by Artigue, who, in 1889, exhibited in Paris, prints showing excellent half-tone and produced[2] by coating an extremely thin, even layer of gum-lampblack on gelatinized paper. The Artique paper gave results that attracted much attention, but the principles upon which it was based seem for several years to have been neglected. However, in 1905, Prof. Schmidt, of Karlsruhe,[3] demonstrated a paper made by putting on first a plain gelatin film, and over this a thin layer of gelatin containing the pigment. About this time were also placed on the market several commercial papers prepared apparently along about the same lines.

More recently, Malcolm Arbuthnot[4] has proposed the further variation of adding sugar to the gelatin with which the paper is first coated, then for the subsequent coat, using nothing but the pigment, water, and the glycerine or other medium in which the pigment is ground. His directions for producing this paper are simple and concise and may be summarized as follows:

The paper is pinned to a drawing board, and by means of a camel-hair mop soaked with a solution of[5]

Nelson No. 1. gelatin.....	15 grs.
Lump sugar	15 grs.
Water	1 oz.

After this solution has been well worked into the paper the excess is removed by lightly wiping the surface with butter muslin, using a polishing motion.[6] At the end of a half hour or so the coating operation is repeated.[6] As a rule two coatings are sufficient, but three or four can be used. After the paper is thoroughly dry from the last gelatine coating it is at convenience pigmented, using for this purpose tube water colors. "Squeeze out two or three inches of pigment, and slightly thin with water until it is quite liquid, but absolutely opaque when spread out upon white paper. The pigment is now spread upon the gelatine coating by means of the camel-hair mop, and after being well worked upon the surface of the paper, the surplus is taken up by the application of a badger-hair softener." The coating must be blended entirely down, that is, until surface-dry. Sensitizing may be either by immersion or by spirit sensitizer. The negative must be a good strong one, not the kind used for gum printing. After exposure, soak for ten minutes in warm water, keeping fully immersed, then develop with spray of hot water.

When all the conditions are favorable this process is capable of giving excellent results, and Mr. Arbuthnot has performed a real service in describing so simple a means for the production of very useful printing material, which will give a practically straight rendering of the negative as well as a certain amount of control; and it seems rather a matter of surprise that it has attracted so little attention in the two years since it was published. Possibly the explanation of this lies in the fact that the requirements are more exacting than would be imagined by simply reading Arbuthnot's description, and it is proposed to point out some of them as they have appeared during considerable personal experience; also to suggest a modification by which the ease of working and the range of usefulness are increased. The process will accordingly be gone over in detail.

The Paper. It is rather difficult to make a really satisfactory coating on smooth paper, as the gelatinized surface is slippery to the pigment. For this reason it is much easier to use a paper with grain, but this grain should be fine and sharp; an irregular surface of large

[2] Eder, *Handbuch*, 2d edition, part 4, p. 460.

[3] Report. *Br. J. Phot.*, Aug. 25, 1905, p. 671.

[4] *Am. Phot. and Photo. News*, Dec. 13, 1910, p. 573.

[5] Or expressed decimally this is roughly in the proportion of

Gelatin	3 grm.
Sugar	3 grm.
Water	100 c.c.

[6] The general advantages of applying the coating in two stages are that since the first coat contains no pigment there is no danger of causing staining with it and the colloid solution may be very dilute; and since the pigment solution need also contain very little colloid, it is easy to spread it in an extremely thin layer. If the colloid coatings be wiped, as here recommended, thinness is also, of course, favored by direct removal of part of the colloid.

smooth undulations (an exaggerated illustration of which being the so-called egg-shell paper) is of no advantage. The Landseer cartridge paper, recommended by Arbuthnot, does not seem to be available in this country, but a variety of drawing papers, especially the medium grade German papers, can be used; a very good rather rough paper of this class being the "Ajax, medium weight, fine grain," sold by F. Weber & Co. as number 3040. This is well-sized and requires nothing but two coats of the three to one hundred gelatin-sugar to prepare for pigmenting. Another paper of quite different character is the "Gum-bichromate paper," sold by the Chas. Beck Company, of Philadelphia. This is somewhat cheaper than the first named, is not quite as strong and well-sized, and has not as pretty a grain, yet it works well and is useful, especially for small prints up to say 8 x 10. The back should be coated, as this has a fine, regular grain which, when wet, rises and becomes fairly sharp, whereas the face has the smooth irregularity already mentioned, which presents a pleasing appearance to the eye but takes the coating less well. This paper usually works satisfactorily with the two coats of gelatin-sugar, or may also receive first a coat of 1½ or 2 per cent. hard gelatin, with or without chrome alum, which coat is applied in the same way as the gelatin-sugar.

Coating the Paper. It is of importance that this operation be conducted with the paper between the operator and the light, so that by stooping one can look along the surface and detect unevenness; for, since the coating is transparent, streaks cannot be detected from above. If artificial light is being used it should be low, so as to give a good reflection. The rough surplus of the gelatin should be removed by the circular polishing motion, but the final smoothing down should be by straight wiping across the paper, first in one direction then at right angles repeated two or three times, each time using the butter muslin or cheese cloth, as it is commonly called in this country, more lightly as the action approaches that of blending rather than wiping. If all streaks are not in this manner removed the blender may be used. Another point is that the cheese cloth should be damp, in which condition its action is far more delicate than when dry. It should also be washed after each three or four sheets, so that its power of absorption may remain the same during the entire operation, which is not the case if it becomes saturated with semi-solidified gelatin. After washing in warm water wring as close as possible, then open it out and wave for a few moments in the air so that by evaporation the heat from the wash water may be dissipated. In a very short time it will feel quite cool to the hand, when it will be in condition to use. As Arbuthnot says, the cloth should be large, three by four feet not being excessive to use in coating paper 16 x 21 inches. It is usually better to wait more than half an hour, probably twice this time, before applying the second coat; for if it is recoated too soon most of the previous coat will be removed. In this connection it is to be noted that if the room, paper and cloth all be quite warm it is perfectly possible to apply a six, seven, or even an eight per cent. solution and get it rubbed down practically free from streaks; and in such case only one coating is made. However, for so much gelatin as this it is easier to use weaker solutions twice. It is always well to coat the paper as lightly as possible, considering the nature of the print desired, for if more than just sufficient gelatin be used difficulty will be found when it comes to pigmenting. The amount recommended will give straight prints or some control, for it is an interesting fact that this thin film of mixed gelatin, sugar and glycerine shows little of the definiteness characteristic of gelatin alone in thicker layers, and performs fairly well the function of semi-solid gluing material, and it is so thin that great exactness is possible.

When it is desired that the darkest shadows should appear almost black, that is, when the pigmenting solution is

to contain a large proportion of pigment, it will usually be necessary to increase the thickness of the gelatin coating; also when colors other than lampblack are employed. In either case pigment is more likely to be driven into the paper and cause staining.

Pigmenting. With the paper and negative just right and provided one does not require great control, good work can be done with the pigmenting solution described by Arbuthnot. It will be found far better, however, to pigment with a gum solution as described below, somewhat reducing at the same time the amount of gelatin. This leaves the pigment more intimately associated with the fibers of the paper so that it is not likely to become accidentally detached; and provided the exposure be suitably increased the image can be developed by vigorous spray or brush work, removing just what we wish, so that light and shade can be freely modified and even a certain amount of re-drawing effected just as with friction gum, but more perfectly. Working in this way the paper will usually require only one coat of gelatin, which for some results may be as weak as 2 per cent., but should more often be about 4 per cent., the general principle being that the more gelatin used the less spraying is necessary, and the more definite and "photographic" the results. It is also desirable to use a little more sugar than gelatin—about five grams of sugar to four of gelatin—which will make the image even more plastic, and at the same time reduce the necessary temperature of development water to about 80 degrees Fahrenheit: the advantage of low temperature normal development being that by raising the temperature one can correct a considerable amount of over-exposure.

The pigment may be tube color, or, in the case of lampblack, distemper color ground in pure water only; other distemper colors do not seem to be fine enough. The quantity indicated by Arbuthnot, namely, sufficient to give a perfectly black surface, is serviceable for the essentially platinum-like effects which he says he desires to obtain; but the average pictorial worker will probably find that such a coating will give him shadows which will require to be opened up a good deal by forcible development, with some risk of altered texture. Heavy pigmenting does not with this process mean nearly the difficulty that it does in gum printing; nevertheless, moderate quantities of pigment are even here easier to handle, and so from either aspect it is advisable to start by making coatings considerably lighter than full black.

The pigment is rubbed up in a mortar with a solution of gum, the strength of which may vary from three to eight per cent., five usually being satisfactory. The gum solution is always made up fresh, and theoretically, as pointed out by Baker,[7] it is prudent even in gum printing to neutralize the natural acidity of the solution; and on account of the possible effect of the acidity in promoting the decomposition of the bichromate, and the greater sensitiveness of gelatin to the chromium oxides, it would seem that an additional reason existed in the present process for neutralization. But practically there seems to be no difference in the results when the gum is neutralized, and the sensitiveness of the paper is much less, particularly if the neutralization has not been exact and there is the slightest excess of alkali present. The latter condition also seems to favor the penetration of the paper by the alcoholic sensitizing solution, which results in small round spots in the print, most often seen in the shadows.

The bristle brush of ordinary gum printing is not used in the present process, but as Arbuthnot says, a camel-hair brush should be employed. On account of the low viscosity of the solution such a brush is perfectly able to control the distribution of color over the paper, and it is not as likely to drive the particles of pigment through the gelatin, thereby causing staining, as is a bristle brush. This consideration is of importance chiefly when it is desired to develop with light spraying. The object

[7] T. T. Baker. *Practical Photo.*, May, 1905, p. 45.

here is not to try with how little solution one can cover the surface of the paper, but rather to use enough to thoroughly pigment the gelatin; therefore it is applied rather freely, blended across and up and down leisurely and lightly all with the coating brush until a fairly regular surface is produced, then blended thoroughly and carefully down with the badger blender until surface-dry. This blending is one of the most important parts of the process. The only way to judge whether it has been sufficient is by transmitted light; if when so viewed the paper appears to be full of small black specks the blending has been stopped too soon and the sheet will probably be worthless, the proper appearance on an even grained paper being almost like a yellow or brown ground glass. Streaks are far less troublesome than defective texture, for the former can often be corrected by local spraying, but the latter means lack of detail and a very displeasing, rough, grainy image. If the paper be too heavily gelatinized it will be found as the blending proceeds that instead of drying with an even surface, measly patches will appear, which becomes worse if the attempt be made to recover them with further blending.

No difficulties are likely to arise in the sensitizing, printing or developing. It is advisable, however, to avoid combining the pigmenting and sensitizing operations (by adding bichromate to the pigmenting solution) at least until one has become familiar with the process; for some reason success seems easier when the paper is separately sensitized, possibly because of the well-known change in the physical condition of gum solutions produced by the addition of bichromates.

When the pigmenting solution is made up with gum it is not very easy to say whether we are in reality making gum prints on a gelatin-sized paper or gelatin prints pigmented by means of a gum solution. When the proportion of gum exceeds about 12 per cent. it would seem from the changed character of the image that the gum becomes dominant; whereas with solutions of the strength recommended the only differences apparent in the print as compared with one pigmented with a plain water solution are a more mellow texture and easier manipulation.

However, this is rather an academic question. The difference with stronger gum solutions may be merely that due to the growing thickness of film as it approaches that of an ordinary gum print. The essential condition is a thin coating, and this is easily made by the process to which your attention is invited this evening.

FOR AN UNPARALLELED CONVENTION

MAY first, the treasurer of the Photographers' Association of America will begin an active membership campaign. It is his purpose to close the Kansas City Convention with a membership of 2,500. In order to reach this figure it will be necessary for everyone who attended the Philadelphia Convention last July to renew their membership for 1913 and for those who paid at St. Paul in 1911, and not last year, to pay for 1912 and 1913. Members will receive statements May 1st and it is hoped that everyone will remit. In addition to the above we must have many new recruits. If each member of the association will secure one new member in addition to taking care of his own dues for the current year, we will have the membership asked for. Can we not count on YOU to do your share?

The Kansas City Convention which will be booked for the week of July 21st is to be a memorable one. It will be an educational convention with enough entertainment introduced to make a well balanced week. Kansas City Convention Hall where the Convention will be held is the largest hall ever placed at the disposal of the Association. The entire show will be under one roof. The main floor of the building will be used by the manufacturers and dealers for their exhibits which will be unusually numerous and extensive and of special interest. Since there are no State conventions west of the Mississippi River this year, all the new inventions and productions will be shown here. Exhibitors will have uniform booths all handsomely decorated. The whole presenting a scene that will eclipse all previous attempts of the P. A. of A.

The business meeting will be held in the balcony at one end of the Convention Hall. At the other side, provision will be made for meetings of any State association whose convention has been postponed for 1913. On the program there will be no long, tedious, uninteresting lectures; instead a few crisp, snappy talks, full of good meat that you will not only enjoy but there will be something you can take home with you.

The picture exhibit will be placed in the corridors. Pictures being displayed on special desk shaped screens, all properly lighted up so that there will be no choice of position. Five pictures have been requested from each exhibitor and all prints will be passed on by a competent jury before being hung. Only those being considered worthy will be accepted. A jury will also select a few (not over twenty) of the best pictures made and exhibited by members of the P. A. of A., for illustrating the 1913 Association Annual.

The Woman's Federation under the leadership of Katherine Jamieson of Pitsburgh and the Commercial Men's Federation headed by Pres. R. W. Johnson of the same City, are planing programs that will be of special interest to the ladies and to those who are engaged in Commercial Photography. The exhibits of both these organizations will be made under the rules governing the regular exhibition. Lady photographers and Commercial Men will find much of special interest to them at the Kansas City Convention.

All pictures sent for exhibition must be sent to 1st Vice-Pres. Manly W. Tyree, c/o Convention Hall, Kansas City, Mo., and must reach their destination by July 14th. No packages will be accepted after that date. Prints for the picture exhibition may be framed or not, and they may be any size and printed on any medium and must not bear the name of the maker. Pack them carefully and send prepaid with the name and address of the sender on the under side of the box cover.

The Association Annual for 1913, which will be issued soon after the Convention will be illustrated with some of the pictures shown and will contain a full report of the proceedings. A copy

OFFICERS OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

will be sent to everyone who pays dues for 1913.

The Kansas City photographers and dealers are very actively engaged in preparing for our entertainment and the social features of the Kansas City Convention will compare favorably with those of any previous meetings of the National. The hotel facilities are ample and of the best quality. The Baltimore Hotel, the headquarters, is equal to any of the high class hotels in the east and there are numerous other hotels, any of which will be found satisfactory.

Detailed information concerning the program will be given out later. Watch for it. While you are waiting, if already a member, pay your dues, line up your neighbor for a membership and make your plans to attend the Convention together in July.

THE ART OF SILHOUETTING

In this modern age, when photographic art has achieved so high a degree of perfection, most people do not stop to think that less than a century ago there did not exist any photographer at all. When our ancestors wanted to have a portrait made they had a limited choice of methods. They could have it painted, very circumstantially, in colors, for one thing; or they could content themselves with a silhouette, cut out of black paper. Of course, the latter method was the cheaper, and subsequently it became highly popular, until photography was invented.

The word silhouette, which has been merged with most languages, was at first meant as an expression of contempt for the French Chancellor of the Exchequer, Etienne de Silhouette, who, instead of adjusting the money affairs of his country, spent his time in decorating the walls of his castle with shadow portraits of his guests. The French people said that "his pictures were just as black and empty as the French Treasury." Since that time black portraits of this kind have been called "silhouettes."

Years before the German scientist Lavater had occupied himself with drawing profiles. With the help of a wax candle he produced a shadow of his subject in full size in a white sheet, on which he then traced the outline. Later he reproduced the picture on a smaller scale, and the portrait was finished.

The correct way of taking a silhouette is, however, to cut it out of black paper by hand. It requires a great deal of mechanical skill, but at the same time a beautiful result can be accomplished when a clever person wields the shears.

In the nineteenth century it was quite an industry to clip silhouettes. One single man, August Edouart, who lived most of the time in America, cut out nearly 100,000 portraits, and still he was one of the few who understood how to give silhouettes the true imprint of real art.

The greatest genius in the field of this special branch of art who ever lived was Paul Konewka. Although he died when only 31 years old he developed such dexterity in silhouette cutting that he became known all over the world. He combined a fine decorative sense with wonderful adroitness in the use of scissors. He always carried with him a pair of scissors especially constructed for this use, and he cut with such deftness that he never needed to look at the scissors.

The most celebrated among his silhouettes are the illustrations of "Faust" and Shakespeare's dramas. His figures are so charming, his portraits so animated, that even the most particular critics must yield them admiration. In any case, this black art has fostered one great master, has given lasting fame to at least one name—Paul Konewka.

The making of photographic silhouettes can become a profitable side line in many of the smaller studios if properly handled. Besides, it may be used as an advertising dodge, and serves this purpose very well. Either in the form of presentations or as holiday novelties, photographic silhouettes may find a ready sale at a price fully as remunerative as that of any other postal card.

A dozen silhouette postals, for instance, may be offered complimentary with every $3 or $5 order; as a rule, there will be re-orders, which will pay well at 50 cents a dozen.

As holiday novelties they ought to fetch easily 75 cents to $1 a dozen, which, in consideration of the small amount of labor involved in their making, means a handsome profit.

Silhouettes are easily made either by artificial light or by daylight. There are several ways of proceeding that give equally good results.

Briefly, all that is required to make silhouettes by photography is a white background, against which the sitter is placed in profile. A very quick exposure is

given and developed harshly, so that no details show in the face.

By artificial light all that is required in connection with the work is a white sheet or translucent screen and an electric arc light, or simply a few inches of magnesium ribbon.

The Way in Which the German Scientist Lavater Took a Silhouette.

The screen may be placed before a doorway; the subject is placed in front and sharply focused, if necessary using a small stop to obtain definition. About eight inches of magnesium ribbon are then burned behind the screen about in line with the subject, but not to close to the sheet. The operator must open the shutter immediately the ribbon ignites, the exposure continuing as long as it burns. There should, of course, be no light whatever on the camera side of the screen.

Slow plates are preferable to very fast ones, as desnity in the background (a *sine quâ non*) is more easily obtained, and a hydroquinone or strong pyro soda developer should be used at full strength to give contrast. Print on gaslight paper, using a metol developer to produce pure blacks, but for a border design an under-exposed print developed to a pale gray will give a unique effect. For this the subject is arranged so as to leave a space in the centre for the picture proper—the silhouette photo forming an effective frame. In printing the border the centre must be masked, and *vice versa*.

Courtesy "Woman's Home Companion." *Copyright.*

By John Rae

See "The Art of Silhouetting"

THE general impression is that an object viewed through a telescope looks precisely as it would if moved nearer the observer. This is by no means the case. The perspective of an object a mile away is quite different from that of the same thing at a distance of a rod; and the magnifying power of the glass simply enlarges the image of the distant object—the apparent relations of its surfaces and lines are not changed as they would be if it had actually approached. Those who have used a large terrestrial telescope or a powerful binocular have usually been conscious of this oddity or unreality of appearance, without realizing its cause. In an article on "The Psychology of Telescopic Vision," contributed to *Knowledge,* Mr. W. Alfred Parr discusses the matter as follows:

"If we regard a far-off landscape through a powerful telescope fitted with an erecting day eyepiece, we soon become aware of the fact that any distant cottages or houses which our landscape may contain appear to us strangely out of drawing. More especially is this the case with such houses as happen to have their longest sides parallel to our line of sight, so that we look along them, as it were, instead of squarely at them. We shall find, on examining these closely, that, instead of presenting the ordinary aspect we are accustomed to associate with the rules of foreshortening, they boldly bid defiance to all our ideas of perspective and stand out at us in a manner which is truly astonishing. And, if we recall the statement we so often hear, that the function of a telescope is to make a far-off object appear as if it were only at a short distance from us, our astonishment will be the greater, since no houses within our previous experience wear such a curiously distorted guise as these. . . .

"Now, our surest way of keeping this peculiar action of the telescope in mind is to remember that, far from even apparently bringing distant objects nearer, as the popular claim has it, the telescope in realiy merely enlarges the naked-eye view. It brings to our notice objects which, by reason of their great distance from us, would otherwise remain beyond the limits of critical vision, and thus enables us to see them *under conditions different from those under which our experience is usually gained.* In other words, the telescopic image and the naked-eye image are essentially copies of one another on varying scales, and it is only in our different interpretation of these scales that the peculiarity of telescopic vision resides. . . . We must remember that in looking through a telescope we become aware of conditions which are foreign to our usual experience, and of which, but for the instrument's power, we should have remained in ignorance."

Do the telescopic photographs prove the writer's contention? He notes that as lines that are really parallel but recede from the eye do not incline toward each other as they grow more distant, but appear to open up more widely, so the telephotographic images seem distorted because we are not used to them. He proceeds:

"We are confronted with a condition of things which in the ordinary way of life would be beyond the critical limit of vision. But now comes an interesting psychological moment; for the mind insists upon continuing its usual operation even under the present unusual circumstances. Knowing the two ends of a house to be of equal size, we make a habit of mentally enlarging the reduced image of the distant end to fit the near end; and here, where there is practically no dissimilarity between the retinal pictures of the two ends, we persist in mentally enlarging the distant end, with the curious result that the lines of the house appear actually to *diverge* as they recede from us. But that this astonishing effect is nothing but a psychological illusion, any one can easily prove for

himself by simply holding the picture in such a position that the eye can glance obliquely down the seemingly divergent lines when he will at once become aware that they are practically parallel; the actually existing, but extremely slight, *convergence* toward the distant end being quite inappreciable. . . .

"This is a striking confirmation of the truth that the same personality enters into the examination of a photograph which is known to exist in the actual observation of nature, and the interesting fact is once more brought home to us in the study of such unusual phenomena as the present, that things are apt to change their seemings to suit our preconceived opinions concerning them; for our judgment is to a great extent a process of semiconscious inference based upon a variety of circumstances drawn from our past experience and sense of association. We may, indeed, reverse the old saying in such a case as this and claim, that here at least, Believing is Seeing."

THE CARE OF APPARATUS

THE bad workman who always finds fault with his tools is well known to us all, by reputation if not by actual experience of him; but no one seems to have troubled to find out why he finds fault with them, and whether after all his complaints are not sometimes justifiable. For one thing, a bad workman requires better tools than a good one, since he has neither the wit nor the skill to make up for the shortcomings of inferior ones, although it is foolish for even the best workman to handicap himself by the use of such. We rather suspect that, after all, laziness was at the botom of his trouble, and that he found fault with his tool because he did not give them the care necessary to keep them in good working order. Ingenuity is a good thing, and will often help one out of a difficulty, but thoroughness is better, and the feeling of confidence begotten of reliable apparatus is more satisfactory than the thrill of relief experienced by the skilful avoidance of a totally unnecessary disaster. The operator, whether engaged upon indoor or outdoor work, needs to keep a watchful eye upon his apparatus lest it breaks down at a critical moment, when there is no possibility of repairing it. It takes a lot of explanation when an operator misses an important subject because his camera front has given way, and there was no time to refix it, and in the majority of cases he will only have himself to blame if he is requested to exercise his talents in another establishment. The accidents which are unavoidable must be endured, but those which could easiest be avoided cause the greatest annoyance when they happen.

It should be assumed that every well-made camera can be opened, closed, and all its adjustments made without any perceptible effort being necessary. Just as pain is simply a sign that there is something wrong with the vital organism, so any stiffness or jamming in a camera is a sign that something is displaced or has become bent. If a camera be forcibly closed it means that a strain has been put upon some part not designed to bear it, and after this has been done for a few times we find to our dismay that one of the clamping rods has given way, or that the bearing of the focussing pinion has been torn up "by the roots." In closing a conical camera of the "Acme" model care should be taken that the baseboard is racked right home, that the rising front is set to its correct position, and that any screws which have to fall into place upon the baseboard are in their correct position—that is to say that, if there is a hole made to receive an oblong nut, the nut should not be left at right angles to it. Many cameras of this type are ruined by a want of these simple precautions, crumpled bellows, bent struts, and bruised woodwork being the usual

results. The parallel bellows camera does not call for so much care in handling, but even with this the baseboard is frequently strained through closing the camera with the reversing back in the position for "upright" pictures, in which case the hinges of the focus screen usually foul the long brass runners of the baseboard. Injury may also result from failure to close and secure the swing-back, or to attempt to fold the baseboard with the inner frame racked out ever so little. The hinges of dark-slides are often badly strained through attempting to close them with a displaced partition or badly fitted inner frame. It is, of course, impossible to close the slide under these circumstances; but a few good wrenches given before looking for the trouble soon leave their impressions. Tripod stands are often damaged by turning the members in a direction contrary to that in which they are intended to go, and spring catches are wrenched off because a piece of shaving or other foreign substance is in the hollow beneath the press button. Lenses are usually only damaged by the want of proper packing. Every lens should have its own case, or, at all events, a thick chamois leather bag, to which it should be returned immediately on being removed from the camera. Crossed threads on the lens cells and tube, frequently result from hurried handling, and, having once been started, are likely to recur every time the cells are unscrewed. In such cases the lens should be returned to the maker to have the false thread obliterated before the original one becomes quite destroyed. Lenses should never be cleaned with putty powder, rouge, or any cleaning material, and should be wetted as little as possible. A drop of pure alcohol and an old handkerchief are the only safe materials in unskilled hands. If any moisture condenses upon a lens it should be wiped off at once and not allowed to evaporate; if this is not done quickly "rust" will probably appear, and the more expensive the lens, as a rule, the greater is the liability to staining from damp.

It is not advisable to use any spirit polishes or "revivers" for cleansing and renovating the woodwork of cameras or other apparatus; a good furniture cream thinned with turpentine will clean and polish, or if a home-made preparation is wanted, a teaspoonful each of olive oil and good vinegar well rubbed on with a morsel of flannel and polished off with a clean duster will work wonders. If grooves or other wooden surfaces require lubrication do not use grease, but dry blacklead, or, better and cleaner, French chalk, and it may be worth noting that for all photographic purposes French chalk scraped off the lump is much better than that purchased in powder. If blacklead is preferred a carpenter's pencil affords the cleanest and easiest method of applying it. Every camera case ought to contain a repair outfit, which need not be larger than its cycle prototype. It may consist of a small wire screwdriver, a roll of rubber plaster, a small tube of fish glue, and a few very small screws, tacks, and pins. With these most temporary repairs may be effected, and a journey home for repairs avoided—*British Journal of Photography.*

ASSISTANTS are continually finding fault with their wheel trimmers for cutting ovals and circles, and constantly asking for new wheels, saying "those they have are dull and refuse to cut." They are not really dull, but simply stiff for want of lubricating. Keep a small bottle of oil on the bench, and every morning dip the wheel trimmers right to the top of the metal part in the oil. Then wipe it off on a rag and the wheel will work as well as new.

The metal shapes used with this should always have the "burr" well kept down by rubbing occasionally with emery paper or cloth. It is to the interest of the assistant to attend to such details. His work becomes easier, he has less worry, gets better results, saves his master's money, and makes things more pleasant all round.

WORKROOM SPRING CLEANING

Now that spring is close upon us, the photographer's mind is occupied with the consideration of his future work. Before the spring fever gets into his blood, however, the reader is strongly advised to give his workroom a vigorous spring cleaning. The ideal workroom is one in which a "spring-clean" is never required, but has a clean-up immediately after the owner has finished his work.

Unfortunately, that desideratum is very seldom met with. The first thing to be done will be to remove all bottles, etc., from the shelves, and have the shelves well cleaned. To my mind, the best method is to use two pails of water and a large flannel or sponge. Soak the sponge and wring it in the first pail, then wipe the shelf very carefully with it. Now return the sponge to the same pail, and dry the shelf with a clean cloth. Next take the sponge and rinse it in the second pail, and wipe another shelf carefully. Then return the sponge to the first pail again.

This procedure is carried out until all the shelves are cleaned down, and the bottles may afterwards be dealt with in the same way. This method is far more effective than dusting down, as all the dust is placed where it cannot re-settle.

Attention should be given to the bottles next. No bottle should be returned to its shelf if the photographer has any doubt as to the strength of its contents, or if it is minus a label. The contents of doubtful bottles are better down the sink, rather than run the risk of spoiling future plates and papers.

The best labels that I have tried are waste P.O.P. prints. The print is cut to a suitable size, placed in hot water until the surface is slimy, and is then fixed in position on the bottle, and wrapped round two or three times with a clean duster. After two or three hours the duster may be removed. The contents and strength should be printed in thick letters with dead black ink on the label, so that it can be easily read in the dim light of the workroom.

For hypo a Winchester quart bottle is as good as anything, and a useful dodge is to put the top of the label level with the solution when it is first made up. This removes the necessity for measuring the amount of water required when future solutions are made.

Labels can be kept clean for a considerable time if care is taken to pour out the contents of the bottle on the opposide side of the label. When bottles contain poison it is a good plan to tie little toy bells on their necks. They will give a warning note should one be taken down by mistake.

In the constant pursuance of his hobby the amateur will find that various useful odds and ends, such as corks, pins, scoops, waste lantern plates for cover glasses, etc., will rapidly accumulate, and he will be at a loss to know where to conveniently place them so that they are handy when wanted. For this purpose I can recommend nothing better than a nest of six lantern slide storage boxes for the price of about one dollar. Each nest is divided into four spaces, with cardboard partitions, and these can be easily removed if required for articles such as stirring rods or candles, which require the full length of the drawer. A loose label is provided on the front of each drawer for notifying the contents.

Another very useful accessory for encouraging tidiness in the workroom is a waste paper box in some convenient corner for the reception of all waste wrappings from plate boxes and paper packets, etc.

It is also a good idea to hang up a child's slate, with pencil attached to string, in a well-lighted position, and use it for making a note of things, such as chemicals, plates, paper, etc., which need replenishing.

By Alice L. Becht

See "Home Portraiture and the Child"

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PHOTOGRAPHING SMALL ARTICLES FOR CATALOGUES AND ILLUSTRATIVE PURPOSES

A GLANCE through the catalogues of any of our great stores will show completely pure photography—if we may so call the half-tone process—has ousted hand-drawn work for the purposes of illustration. This class of work has tended to drift away from the ordinary photographer, much to his loss, and I am inclined to think that a loss of quality may be attributed to the same cause, as it can hardly be expected that an operator whose daily practice is mainly confined to copying from the flat will have the same feeling for light and shade as a man who is skilled in studio portraiture. The three essentials to successful working are correct drawing or pleasing perspective, approximately correct color-rendering, and appropriate illumination.

The Lens—of Long Focus

Regarding the first of these factors, I have often remarked the absolutely false impression produced by using a short focus lens, which is most noticeable in rectangular subjects such as boxes, and more particularly when these are photographed with the lid open. For an example of this I would recommend the student to make a negative of exactly natural size of a snuff-box or similar little casket, the lid being turned back and the box placed to show the front and one side, using for the purpose a lens of seven or eight inches focal length; then to make another negative with the longest focus lens that the camera will accommodate, and to compare the two results. Nor is it only in subjects containing straight lines that bad perspective is objectionable. Such articles as bracelets, hair brushes, and scent bottles show it in a general ungracefulness of outline. I would therefore recommend that no lens be employed which does not permit of a distance of 3 feet between camera and object when photographing in natural size. If the photographer possess a telephoto lens, it may be usefully employed for this class of work, especially when a group of small objects has to be taken.

Many Subjects beyond the "Ordinary" Plate

Color-rendering is of the greatest importance, and here the every-day photographer usually fails grievously, rarely using a color-sensitive plate, and practically never in conjunction with a properly adjusted light-filter. Now, there are many objects possessing no pronounced color contrasts which cannot be photographed upon an ordinary plate, no matter what exposure is given. Among these may be found small articles —clocks, stationery cases, etc., made of "Chippendale" mahogany, and also dark brown and green leather purses, pocket books, and card cases. On an ordinary plate these only yield an impression of the surface shine with no value of the real color of the material. For example, a dark brown crocodile purse will give no more detail than it would if it were absolutely black. Panchromatic plates, although more costly, are greatly to be preferred, even to the green and yellow-sensitive variety known as "orthochromatic," and it is essential that a selection of color screens of various densities should be at hand so that no one appropriate to the subject may be used. In many cases the red filter of a trichromatic set may be used with advantage. Of the old brownish-yellow "screens," the most that can be said in their favor is that they are better than nothing, but their correcting effect is very mall compared with the increase of exposure which they necessitate.

Arranging the Subjects

The arrangement or grouping of articles for catalogue illustration calls for some skill: the photographer must study and profit by the methods of the window-dresser, and it is always advisable to se-

cure the help of the owner of the articles, who will indicate to which the greatest prominence should be given, and also any special features of design or texture which have to be emphasized. Small wire stands or easels, such as are used for supporting price tickets and small portraits in the window, are often very useful for holding such things as purses and card cases, while the small wire drawer partitions which terminate in a screw make handy little shelves to screw into the background. In many cases the manufacturers of fancy articles have special fittings for the display of their goods, and they are usually willing to lend these if requested. For many articles the so-called "shadowless" photography is the only satisfactory method, and once the needful apparatus has been arranged a large number of negatives can be made quickly. For this the camera must be arranged so as to point downwards, and the articles arranged upon a horizontal sheet of glass beneath, which at a suitable distance and angle is a sheet of card or paper, light, dark, or medium according to the effect desired. A very convenient way of working, which, however, gives a reversed negative, is to employ the camera in its usual position, and to fix a prism or mirror on the lens. This allows of focussing being done while standing in the usual position, the glass plate being supported between two boxes or chair seats. If much work has to be done, it is better to have a special stand constructed. I have found the model designed by the late T. C. Hepworth quite excellent. It consists of two strong triangles of wood with sides about 24 inches in length, one forming the base and the other the top, united by stout pieces of quartering for legs; between these a square frame resembling a picture frame fitted with a sheet of glass slides up and down, capable of being clamped at any height. The top triangle is perforated with a hole about 8 inches square, and the camera is supported in any convenient way above it. A useful variation of this idea is to make a strong frame with a carriage to hold the camera exactly as for copying prints, but instead of the copying board the glazed frame is substituted, efficient clamping arrangements being provided. This may be used at any angle from horizontal to vertical, and also for ordinary copying and enlarging. It is essential that it be strongly made, or the result will probably be disastrous. With some subjects the glass-plate idea may be carried out with the plate in a nearly vertical position. I have photographed a series of shells by hanging them in front of a glass plate by means of fine cotton which was chosen to match the color of the background. If the plate is at an angle of 60 degrees many small objects can be fixed upon it by means of the rubber plaster sold for surgical purposes. This is used exactly in the same way as the paper hinges in a stamp album. The plaster leaves no mark on the object, and may be used repeatedly.

Dealing with Glittering Subjects

All sorts of dodges have been given for photographing polished articles, but as a rule all sophistication of the object itself should be avoided. Frosting with putty, whitening, and the like destroys the effect of the polished portions, and it is better to rely on careful lighting. A few cards covered with dark material to cut off reflections, and a sheet or two of tissue paper are all that is needed to secure a good result. I have photographed thousands of bright articles, and have always been sorry when I have attempted to "prepare" them for photography. Dark and dull objects require quite different treatment, many being best photographed in full sunshine or by the unscreened arc light. In winter, if the arc is not available, a few inches of magnesium ribbon will often give an amount of vigor unobtainable by weak diffused daylight. A group of, say, three good inverted gas-lights answers well for copying small articles, especially if orthochromatic plates be used.

An Aid to Photographing to Scale

It is frequently necessary to photograph to scale; that is to say, that the picture shall be one-half, one-quarter, two-thirds, or so on, of the linear

dimensions of the original. This takes a considerable amount of time if done in the ordinary way, and many articles are difficult to measure accurately. To save time I have scaled the camera for use with the lens most generally employed by the following simple method:—A piece of newspaper is carefully cut out and pasted upon a dark mount. It should be exactly 6 inches long after mounting, and any convenient width. A series of slips of card should be provided, their lengths being in proportion to the reductions required: 4, 2, 4½, 3, 1½, and ¾ inches will give a range of ⅔, ⅓, ¾, ½, ¼, and ⅛ scale. The printed card must now be focussed, and its image made to correspond in length with each of the card gauges in succession, marking the position of the camera front or back, as the case may be, for each size upon the baseboard, or upon a lath of wood, which can be placed in some convenient position between the camera back and front. Now all that has to be done, if it is desired to photograph, say, a vase to half-scale, is to extend the camera to the point marked ½ on the scale, and to focus by sliding the camera to and from the object. In the case of a studio camera it will often be found more convenient to move the object. On no account must the length of the camera be altered. It should always be clearly understood whether a photograph is to be made to size or to scale. Full size and full scale mean the same thing; half-size and half-scale do not. If an object 6 inches long is reduced to 3 inches, that is half-scale, but it is only quarter-size.

Backgrounds

If the photographs are required for reproduction—and this is generally the case—a good effect may be obtained and much time saved in arrangement, finding suitable backgrounds, etc., by making up composite sheets or pages by cutting out the separate prints and pasting them upon a suitably tinted paper, putting in a soft cast shadow to each with the air-brush or with the crayon and stump. Pale green or light French gray cards come out well in the subsequent reproduction.

Nothing is better for backgrounds than stout paper, and I have found the "nature" paper as used for mounts very suitable, every depth of tint being readily obtained. The large sheets (28 x 26 in.) will serve as continuous backgrounds and foreground if fastened with two drawing pins at the top about 15 inches from the table, and the lower part bent into a curve and fastened to the table by two more pins at the extreme front corners. It is very necessary to fasten the bottom corners, as a sudden draught may cause the paper to lift and upset whatever may be upon it. I have used this arrangement very successfully for photographing small china articles, and it was a narrowly averted disaster which led to the securing of the corners.

Backed Plates

It need hardly be said that absolute sharpness is essential, and that it is always advisable to use a focussing magnifier. When using telephoto lenses it will often be found necessary to use quite a small aperture, and in order to secure contrast the subject must be strongly lighted. Backed plates are almost indispensable, especially with china. silverware, and other polished goods. Not only is the blurring of the outlines prevented, but the detail in the highlights is preserved. It is not necessary to buy ready backed plates for home use. If a pot of backing color is kept ready to hand it may be smeared on after the plate is in the dark-slide, a piece of brown paper being placed behind it to keep the spring of the partition from touching it.

Exposures should, as a rule, be full, and it is well to remember that the values of the diaphragm apertures alter enormously when working at close quarters. When working to full size F. 8 practically becomes F. 16, and requires a corresponding increase of time. Over-development must be avoided, a soft, bright negative which will give a good print on glossy bromide or gaslight being required for the process man.—*British Journal of Photography.*

PRACTICAL NOTES FROM LONDON

We are sure our readers will welcome another series of practical notes from the British capital by the skillful photographic worker and writer the Rev. F. C. Lambert, M.A., F.R.P.S., in the columns of the *London Daily Telegraph.*

It is often useful to the enlarger to know the exact ratio or scale of magnification. The following is one of the easiest and quickest ways of attaining that end. From the collection of wasted negatives select that having the greatest general density. Lay this on the table film side up. Ascertain its centre by drawing pencil lines joining opposite corners. To the right and the left of the centre point draw two upright lines each half an inch away from the centre, i. e., the two upright lines are exactly an inch apart and conveniently about an inch in length. Then, with a blunt-pointed penknife or stout pin, cut this pair of lines right through the film. When this negative is placed in the enlarging lantern and the two scratch lines in sharp focus, all that remains is to apply a tape measure to the easel and read off the inches between these two lines, which gives us at once the lineal magnifications, or, in photographic parlance, the "diameters."

Flashlight photography engaged the attention of the meeting at the "Royal" last week, when Mr. H. Essenhigh Corke—an experienced hand at this work—gave a thoroughly practical "talk" on the subject. He thinks that this branch of photography has not been used as extensively as it might be if suitable studio arrangements of a more or less permanent character were made. The outstanding advantage of this process is that it makes one independent of the weather; the amateur can thus occupy his evenings. There is one drawback in flashlight portraiture, viz., that one cannot foresee the precise effect of light and shade arrangement, and the flash takes place so quickly that it has passed before one has realized what the negative will yield. Nevertheless, the beginner may get some rough idea on this point by placing a lamp in the position which the flash will occupy.

It is convenient to group the methods of using magnesium under three heads, viz., ribbon, powder, and explosive mixtures. The ribbon may conveniently be made into a coil by twisting it round a pencil or a finger. It can be held by a pair of pliers or between two coins. Care should be taken to avoid dropping the hot "ash" (oxide) on to the carpet. Ribbon is excellent for dealing with objects at rest, e. g., still-life, flowers, copying; it is also very helpfull in dark interiors, thus reducing exposure from minutes or even hours to a few seconds. To prevent hard outlined cast shadows the burning metal should be moved about all the time, and to prevent heavy and dark shadows the greater part of the metal—say, three-fourths—is burnt on one side of the camera, and the remaining quarter is burnt on the other side to light up the shadows. This plan also helps to give better modelling.

Of flash-lamps there are several forms, but they all agree in the general plan of action, viz., causing a charge of finely-powdered magnesium to be blown through a hot but not very luminous flame, such as that obtained by burning methylated spirit. On no account should anything except plain magnesium powder be used with these lamps. Numerous serious accidents have resulted from using mixtures of magnesium with potassium chlorate, and ammonium nitrate. For such explosive mixtures an "open" lamp must be employed. In these the mixture is spread out in a train on a piece of stout tin, or sheet iron, and ignited with touch paper, a match at the end of a long bamboo, an electric or other spark under the control of the operator at a safe distance. Only those

well experienced in the mixing of explosives should attempt such an operation. Suitable mixtures are on the photographic market at quite reasonable prices. For portraiture a diffusing screen is all but essential, and a reflector is often desirable. A diffusing screen may be home-made by covering a child's hoop with butter muslin which has been previously made fire-proof; at the same time it should be kept well away from the flash, and care must be taken against getting too near the ceiling, picture frames, or curtains. Such explosive powders give a flash lasting about 1-30th of a second's duration.

Dealing with the optics of the camera at the "L. and P." last week, Mr. J. W. Gordon took the very interesting line of first considering an idealised pin-hole camera, enlarging the pin-hole, filling it with a convex lens, and then showing how the various aberrations of a "single" (one glass) lens have been eliminated. Without numerous diagrams it is not possible to epitomise this very excellent lecture, and it only remains to say that lectures like this—i. e., dealing with broad principles rather than details of manipulation—might very advantageously find a place much more frequently than they do in many societies. The audience freely admitted that numerous previously obscure points had been cleared up by the lucid exposition of what is commonly regarded as an obscure subject.

"When the wind is in the east, double the exposure at the least," is an old saw dating from the days of wet collodion, but it is seldom heard nowadays. Many of these old sayings have some basis of fact or experience. A member of the "L. and P." has probably hit on the explanation of this maxim of practice. When the wind is in the east it often is both cold and dry—comparatively free from both moisture and dust; consequently less light is scattered and sent into the shadows, so that they are unusually dark, thus calling for an increase of exposure. The greatly increased rapidity of the modern dry plate and its considerable "latitude" of exposure have made the old saying obsolete. At the same time, the modern beginner might very well here take a hint and pay very much more attention to the darkness of the shadows than he generally does. Quite nine out of ten of the beginner's exposures are fatally underdone. For this there is far less excuse now than in the days of the slow wet plate.

ECONOMY IN THE USE OF DEVELOPING PAPER

THE percentage of profit which the professional photographer derives from his work depends in part upon the cost of his materials; the amateur is not bound by the same consideration, because with him the taking of pictures is rather a source of "outgo" than of income. Yet although economy of production is not equally essential to the two classes, both professional and amateur should be alert to accomplish any saving which will make the art either more pleasant or more profitable.

In the use of developing paper of the Velox class a considerable saving may be accomplished, but in order to see exactly where the point of economy comes in a little thought is necessary. A glance at the price sheets of such a paper, combined with our knowledge of the subject, discloses a number of things. For example, consider the 2¼ x 3¼ size of Velox; the price for a single dozen is fifteen cents, but we can buy half a gross, or six dozen, for sixty cents—by buying in half gross lots we can save thirty cents or fifty per cent., and this percentage of saving is increased if we buy a whole gross. The gross price of one dollar means that we can buy twelve dozen sheets for but ten cents more than six dozen sheets would cost

if bought in single dozens; the saving is not far from one hundred per cent.! There is a fly in the ointment, however; developing paper is only good for a certain period, and if the amount of work we do is so small that we cannot use twelve dozen sheets before the expiration period, we lose.

Another point in this connection comes to mind. Suppose you own cameras of several different sizes; unthinkingly you will buy paper for each size, and if you buy a gross of each—! Then again paper comes in a great number of different grades and surfaces; you will want "Regular" paper for your weak negatives, and "Special" for the harsh ones; rough surface for landscapes, glossy for reproduction, "Royal" for re-developing, and so on, as far as you want to go. You may take my word for it that a gross of each is going to amount to something, particularly in the larger sizes!

The writer is the proud possessor of some fourteen cameras, in sizes from a Number 2 Brownie up to an 8 x 10 view camera; the list includes almost everything from home-made devices to a Graflex. In calculating a list of papers to print from such a variety of negatives, I got a result that closely resembled raising infinity to the Nth power. It gave me paralysis of the pocketbook to think of it!

The result was experiment, and because I reached a result satisfactory to myself, I am going to pass it along in the hope that it will suit you likewise; I am also going to take the liberty of considering each of the difficulties beforementioned, together with my solution, in order that the whole matter may be presented in an understandable form.

In the first place, we may take the case of the amateur owning cameras of various sizes; for convenience, we may say that he has two instruments, one being a No. 2 Brownie, and the other a 5 x 7 machine. If he were to follow the usual procedure, he would buy paper in each size, thus doubling the chances of waste by the expiration of the period for use stamped on the packets. But let's suppose he sits down with pencil and paper to do some figuring; it wont take him long to see that from one 5 x 7 sheet of paper he can cut four 2¼ x 3¼ shees which will be right for his Brownie films! That means that he can buy but one size paper, and cut down the time-expired loss by at least one-half. There is more to it than that, however, as we may see by going back to our price list. We find the smaller size listed at fifteen cents per dozen, while the 5 x 7 is thirty-five cents; but each large sheet cuts up into four smaller sheets, which makes our Brownie paper cost less than nine cents a dozen instead of fifteen cents—we save six cents a dozen by making two cuts on a print trimer for each sheet, plus whatever saving we accomplish in eliminating waste. We can go farther, and buy our 5 x 7 in gross lots for $3.50; this means four gross of the small paper for that sum, or a little over seven cents per dozen. Reduced to it's lowest terms, the proposition sums up as follows: "Buy paper for the largest sized camera that you own, and cut it up for the others." In order to save you calculating, the writer has compiled the following table, which shows into what sizes any paper up to 8 x 10 may be economically cut; by a little figuring you can work out others for yourself.

Small Sizes	LARGE SIZES	4 x 5	5 x 7	6½ x 8½	8 x 10
	2¼ x 3¼	2	4	6 or 8	9
	2½ x 4¼	2	3	4	8
	3¼ x 4¼		2	4	6
	4 x 5			2	4

The top row of the above table gives the common sizes of the larger paper; the first row at the left shows the smaller. Pick out the size in the left-hand column, and follow across until you strike the division in which the size you wish to cut up is listed; the single figure shows the number of pieces which you can get. In most cases the division is exact, but sometimes there will be scraps left over; these strips are an additional economy, inasmuch as they may be used to test exposures instead of cutting up a full sheet for that purpose. Needless to say, the sheets must be cut up in a darkened room; for the smaller

sizes, the regular trimming boards are convenient, but for the larger it may be necessary to use knife and straight edge.

So much for the cutting. It is not a bad idea, however, to consider in what manner the life of the paper may be prolonged and how apparently spoiled paper may be utilized. The deterioration of developing paper is hastened by dampness, heat and fumes from gas or chemicals; to preserve it, therefore, wrap the packages in oiled paper or tin foil and store them in a dry, dark place outside of the dark room. By using these precautions such paper may be preserved for a year or more, provided it is bought when still fresh from the manufacturer and before it has stood for months on the dealer's shelves.

Even when it has apparently "Gone bad" such paper may still be used, by proper treatment. Spoiled paper gives muddy, fogged prints; a remedy is our good old friend, bromide of potassium. This may be applied in two or more ways; if the paper has just started on the downward course, it is sufficient to add an excess of bromide to the developer—say ten or fifteen drops of a ten per cent. solution. Bromide tends to increase contrast, therefore a much longer exposure should be given than with fresh paper; also, a strong developer should be used, as with D.O.P. the stronger the developer, the softer the resulting print. If the paper has gone so far that it does not respond sufficiently even to this treatment, float it (before printing) on a ten per cent. solution of bromide; the paper must be allowed to float for about three minutes, and must, of course, be dried before use. It should not be kept too long between bathing and printing.

If your stock is too old even for this method, you can use it as a printing out paper—a fact which many amateurs do not seem to realize. Naturally, the results will not be as good as those you can obtain with a regular daylight paper, but they will serve for many purposes; printing is carried on until the image is considerably darker than desired for the finished print, and is then placed in a plain hypo bath of the regular strength, for toning. When a suitable tone is reached, the print is well washed and the process thus completed. In loading the frame, as well as in all the toning, a dark room is unnecessary; you don't have to use even the precautions that you would with ordinary P.O.P.

The last and final use for stale developing paper is one which has more appeal for the professional. In the first place, the prints from using such paper for printing out are scarcely of a quality which a professional could use for his clients; on the other hand, the stale paper may be used by him for making proofs, a branch of work not often indulged in by the amateur. Of course, it is cheaper to use Solio seconds for proofing, but where the developing paper would otherwise be entirely wasted, it may find it's final destiny in this manner.

The writer makes no claim to have spoken the final word on the subject, and no doubt other workers who may care to take up this line of experiment will reach more valuable conclusions. It is a question of dollars and cents, and as such, investigation will reap its own reward.

To Sharpen Tools.—Every assistant should have a sheet of emery cloth handy. A narrow strip glued or pasted on to a piece of soft wood makes an ideal sharpener for trimming knives. It is much quicker and better for this purpose than a stone. The same thing is handy for rubbing down any rough edges which may be left when cutting glass. It can also be used to bring a fine point to retouching pencils, and lasts much longer than sandpaper.

KODAK ADVERTISING CONTEST FOR 1913

THE Kodak Advertising Contests are not for the purpose of securing sample prints. They are for the purpose of securing illustrations to be used in our magazine advertising, for street car cards, for booklet covers and the like.

We prefer photographs to paintings, not only because they are more real, but also because it seems particularly fit that photographs should be used in preference to drawings in advertising the photographic business. The successful pictures are those that suggest the pleasures that are to be derived from the use of the Kodak, or the simplicity of the Kodak system of photography—pictures around which the advertising man can write a simple and convincing story. Of course the subject is an old one—therefore the more value in the picture that tells the old story in a new way. Originality, simplicity, interest, beauty—and with these good technique—are all qualities that appeal to the judges.

In addition to the prize pictures we often purchase several of the less successful pictures for future use in our advertising. So it will be seen that in reality our prize money is even bigger than we advertise.

There is a big future for the camera in the illustrative field. There's a growing use of photographs in magazine and book illustrations to say nothing of the rapid advance along the same lines in advertising work. There's a constant demand for pictures that are full of human interest. Such are the pictures that we need, that others need. The Kodak Advertising Contests offer an opportunity for your entry into this growing field of photographic work.

TERMS

1. Each picture is to contain a figure or figures and is to be suitable for use as an illustration in advertising the Kodak or Kodak system of amateur photography.

2. Each print in the Grand Prize Class and Class "A" must be from a negative 5 x 7 or larger. Each print in Class "B" must be from a negative 4 x 5 or 3¼ x 5½ or larger.

3. PRINTS ONLY are to be sent for competition—not negatives.

4. Prints must be mounted but not framed. (Mounts should show about one inch margin.)

5. No competitor will be awarded more than one prize. (This does not prevent a competitor from entering as many pictures as he may desire.)

6. Due and reasonable care will be taken of all non-winning prints and barring loss or accident, they will be returned to their owners at our expense, but we assume no responsibility of loss or damage.

7. The negatives from which all prize winning prints are made are to become the property of the Eastman Kodak Company, and are to be received by it in good order before payment of prize money is made.

8. Contestants who are awarded prizes must also furnish to us the written consent of the subject (in case of a minor, the written consent of a parent or guardian) to the use of the picture in such manner as we may see fit in our advertising, as per the following form:

.....

For value received, I hereby consent that the pictures taken of me by.....

....., proofs of which are hereto attached, or any reproduction of the same, may be used by the Eastman Kodak Company or any of its associate companies for the purpose of illustration, advertising or publication in any manner.

.....

(Use This Form For a Minor.)

Parent

I hereby affirm that I am the Guardian of

....., and for value received, I hereby consent that the pictures taken of him by..... proofs of which are hereto attached, or any reproduction of the same, may be used by the Eastman Kodak Company or any of its associate companies for the purpose of illustration, advertising or publication in any manner.

.....

NOTE.—Blank forms will be furnished on application.

*9. All entries should be addressed to

EASTMAN KODAK COMPANY
Advertising Department
Rochester, N. Y.

10. In sending pictures, mark the *package* plainly, "Kodak Advertising Contest," and in the lower left hand corner write your own name and address. Then write us a letter as follows:

Mail,

I am sending you today by Express, charges prepaid.....prints. Please enter in your Kodak Advertising Competition. Class .....

Yours truly,

Name.....

Address.....

* Entries from Canada should be sent to the Canadian Kodak Company, Toronto, Canada.

11. The name and address of the competitor must be legibly written on a paper and enclosed in a sealed envelope in the same package in which the prints are forwarded. There is to be no writing on prints or mounts.

12. We will promptly acknowledge the receipt of pictures, and when awards are made, will send each competitor a list of prize winners.

13. Recognized professional photographers, including commercial and newspaper photographers, in short all persons depending upon the use of a camera for a livelihood, will compete in Class "A." Class "B" is open to amateurs only.

14. This contest will close November 1st, 1913, at Rochester, N. Y., and October 20th at Toronto, Canada.

THE PRIZES.

Grand Prize Class—First, $500, second, $400; total, $900.

Open only to professional photographers who have won prizes in professional class in previous Kodak advertising contests.

Negatives, 5 x 7 or larger.

CLASS A.

PROFESSIONAL PHOTOGRAPHERS ONLY*.

Negatives, 5 x 7 or larger.

First Prize	$500.00
Second Prize	400.00
Third Prize	250.00
Fourth Prize	150.00
Fifth Prize	100.00
	$1,400.00

CLASS B.

AMATEURS ONLY.

Negatives, 4 x 5 or 3¼ x 5½ or larger.

First Prize	$300.00
Second Prize	200.00
Third Prize	100.00
Fourth Prize	50.00
Fifth Prize	50.00
	$700.00

*Winners in 1907 and in Class A, 1908, 1909, 1910 and 1911 are not eligible.
Note also paragraph 13.

SUGGESTIONS

Firts of all, it should be remembered that these prizes are not offered for the sake of obtaining sample prints or negatives made with our goods. *Merely pretty pictures, merely artistic pictures will not be considered.* The pictures must in some way connect up with the Kodak idea—must show the pleasure that is to be derived from picture taking, or the simplicity of the Kodak system, or suggest the excellence of Kodak goods. Must, in short, help to sell Kodak goods, by *illustration* of some one of the many points in their favor.

The jury will be instructed to award the prizes to those contestants whose pictures, all things considered, are best adapted to use in Kodak (or Brownie Camera) advertising.

As reproductions of the pictures will often be in small sizes, too much detail should not be introduced.

Pictures for reproduction should be snappy—vigorous, for they lose much by the half-tone process.

Where apparatus is introduced, it must be up-to-date. If you haven't the goods, you can borrow.

It is highly probable that we shall want to secure some negatives aside from the prize winners. In such cases special arrangements will be made.

THE JUDGES

The jury of award will consist of photographers and of advertising men who are fully competent to pass upon the work submitted. Full attention will be paid therefore to the artistic and technical merit of the work as well as to its strength from an advertising standpoint. Announcement of the names of the judges will be made later.

EASTMAN KODAK COMPANY,
Rochester, N. Y.

THE CARE OF "ORIGINALS"

THERE are few things in a small way that cause more anxiety to a photographer than the responsibility for original pictures entrusted to him for copying, enlarging or matching. Yet in many establishments there is a very lax system, or no system at all, in dealing with them. Sometimes an especial drawer or locker is allotted to them, and then they are left lying upon a desk or mantelpiece until they are wanted, the legitimate receptacle only containing such pictures as have remained unclaimed. Now it behooves everybody who has to handle pictures which may be of the greatest value to the owners to exercise the utmost care over them, and to keep them ready to hand if asked for. Above all, nothing should be done to a photograph to improve its quality for reproduction without the express consent of the owner, or, in the case of an assistant, without direct orders from the principal. In the pages of this journal, and in other places, various "dodges" for reviving or cleaning old silver prints and Daguerreotypes have from time to time been published, but they almost always involve some risk of altering, if not of actually damaging the original, even if a better copy is obtained. If it be necessary to pin up the print for copying, the corners should not be perforated, but only secured to the board by allowing the heads of the drawing pins to overlap slightly. In one studio which we sometimes visit, all originals are put into printing frames with a piece of patent plate glass in front, before handing them to the operator, and they are returned to the receptionist in the frames. By this method there is no risk of injury in any way, and the glass being quite even does not interfere with the copying. When a picture has to be removed from a case or frame, it should be replaced in the same condition as it was received in, that is to say, if it has been pasted in, or the edges bound with goldbeater's skin to exclude dust and smoke, it should be rebound. Goldbeater's skin was formerly used for sealing up miniatures, but the transparent gummed paper sold for mending music is quite as good, and as it is more easily handled is to be preferred. Especially in presence of the owner should originals be treated with a show of respect. If when a customer calls for his copy it is taken out of the safe in his presence it increases his confidence in the business, and may lead to future orders from even more cherished pictures; but if he sees it dragged out from under a pile of prints, or even books, he is likely to be chary of repeating the experiment, even if no damage has been done.

SENSITIZING METHYLENE BLUE FOR BLEACH-OUT PICTURES IN THE CAMERA

During the last few years many experiments on the bleaching-out of dyes in light have been made, and it has been found that certain substances greatly increase the bleach-out properties. Of such sensitizers, there are a very considerable number, those applying to methylene blue being particularly hydrogen peroxide, oxalic acid, thiosinamine, and anethol. By the use of such sensitizers, mixtures may be made which bleach-out with comparative rapidity, so much so that it would appear feasible to obtain positive prints in color by direct exposure in the camera. Such a process, however, if we may judge from literature of the subject, is still somewhat remote, and the latest "Utocolor" rapid paper requires long exposure to a powerful source of light in order to yield a photographic print by contact. For some time past I have examined a number of substances, alone and in combination, in respect to their sensitizing action on dyes. The dye chiefly used has been methylene blue, which was selected for the reason that if it were possible to find a fairly strong sensitizer for one dye, it might be hoped that sensitizers for other dyes could be found by paying regard to the chemical constitution. The experiments have been made by carrying out the bleaching both in test tubes and on paper. In bleaching on paper it is best to use a paper prepared with pure gelatine in order to avoid the penetration of the dye mixture; or the dye may be mixed with gelatine solution, and so applied to the paper, the latter allowed to dry, and then treated with the sensitizer. The tests indicated that sulphur dioxide, which has long been known as a bleaching agent for organic dyes, has not been sufficiently studied as a sensitizer for methylene blue. Sulphur dioxide, as also sodium sulphite or sodium bisulphite, can be mixed with a solution of methylene blue without decomposing the latter, and these mixtures, when applied to paper, are fairly sensitive to light. But attention may be specially directed to acetone sulphite in admixture with which methylene blue bleaches out quickly, at any rate, more rapidly than when the well-known sensitizer thiosinamine is employed. The following experiment will show, however, that a sensitizer may be prepared which exceeds all those previously known in its action on methylene blue:—Mix in a test tube a few ccs. of 1:5 solution (in water) of acetone sulphite or sodium sulphite and a few ccs. also of aqueous or alcoholic 1:30 solution of thiosinamine, adding enough methylene blue (a few drops of the concentrated alcoholic solution) to give a deep blue color. If this mixture be then exposed to strong light, either that of sunlight or at a short distance from a fifty-candle power electric lamp, the mixture will bleach in a very short time—within half to one or two minutes. If the experiment be repeated, but using anethol instead of thiosinamine, that is to say, a sensitizer of acetone sulphite and anethol, with addition of sufficient spirit of wine to make the mixture fairly clear, the sensitiveness to light is found to be about the same.

Taking a gelatin-coated paper and coating it with one or other of the combinations mentioned below,

Methylene blue, acetone sulphite, thiosinamine; or

Methylene blue, acetone sulphite, anethol,

it is found that so long as the methylene blue is not present in too great a proportion, the paper, when dry, bleaches out in direct sunlight within 10 seconds; in bright diffused daylight, within 30 seconds, and close to a fifty

candle-power lamp, within a half to one minute. A positive transparency may be copied on such a paper in bright daylight, or near to the fifty candle-power lamp, within a few minutes.

The bleaching-out of the mixture is, of course, a photo-reduction process. Thus, the mixture applied to the paper is of very low permanence or keeping quality, in consequence of the oxidizing action of the air, and when the bleaching is done in a test tube, the air at the surface of the liquid immediately commences to reoxidize the bleached dye, the colorless solution regaining its blue color when vigorously shaken. In test tube experiments, therefore, it is advisable to work with a little pure oil, such as olive oil, above the aqueous liquid.

As regards exposures in the camera, a gelatin-coated paper, treated with the sensitized dye solution and employed in an ordinary camera, required about two hours' exposure on a landscape in sunshine, yielding a positive picture in methylene blue, by no means perfect. but still showing the relatively great rapidity of bleaching of the mixture. The images so obtained may be fixed by immersion in an aqueous solution of picric acid, but their color is thereby changed, the bleached parts becoming a light yellowish-green, whilst the unbleached portions become violet

EFFICIENCY

THERE are two factors that are entering into modern business methods today to a surprisingly increasing extent. One is efficiency and the other is the "boost" spirit, or the spirit of good-will, the spirit that keeps a smile on a man's face and eliminates the grouch.

The old adage that "You can catch more flies with molasses than you can with vinegar" has changed to "A smile is more conductive to success than a frown."

Efficiency is a foe to waste.

The two cannot mix any more than oil and water.

There is a continual battle going on between waste and efficiency and, unfortunately, waste wins most of the time.

The easiest and the hardest task man has to accomplish is the elimination of waste. It is an easy task for the man who tries, it is difficult for the man who will not try.

No man can succeed unless he thinks —any man can succeed if he will think.

No man can become 100 per cent. efficient and no man ever will, until humanity becomes perfect, which will not be in your time or mine.

One hundred per cent. means doing everything right every minute of every day.

Doing a thing right means doing it as well as it ever has or ever can be done.

The harder a man tries to improve his effort, the greater will be his efficiency, but no man can improve permanently until he realizes how imperfect he is.

No man can really improve until he says to himself, "How much better that might be done!" than "How well it is done!"

This is not a sermon; it is just an attempt to give you a thought that may help you to greater efficiency.

You will get the thought better if you will eliminate from your minds all spirit of criticism.

How many of you can do this? Very few. Humanity is so deeply inoculated with the spirit of criticism that it frequently drives out the capacity to learn.

—*A Booster, in The Ambassador.*

EXTRACTS FROM OUR CONTEMPORARIES

THE magazines are improving. We note it with great joy. A short time ago we had about given up all hope of them. Such dullness we believed could lead nowhere but to oblivion. There was nothing about them that was interesting. But now they seem to be convalescent. They look interesting at least. We have not yet found the courage to read any of them, but if they keep on improving in appearance and tables of contents and promises of what they are going to have "next month," we may decide to peruse a story or an article in them now and then. Cheer up, editors! All is not lost by a good deal.—*Life.*

How to Dress for a Photograph.—A writer in *Vogue,* telling how to dress to have one's photograph taken, says:

As to dress, all artists demand simplicity—always simplicity, in order that the face may be the theme of the picture, with dress merely the accessory, an assistant in the revelation, yet none the less chosen with great care.

A transparent, filmy gown not overloaded with trimming, is always effective. Yet care must be taken that there shall be something to provide the right lights. This is best done with crystal trimming, or it can be done with satin accessories or silk embroidery, but not with lace, which is of the nature of the transparent material. The ordinary lingerie gown is not good, for the reason that the trimmings are apt to be confusing.

If a colored gown is chosen it is best to have it a monotone, for color contrasts nearly always jar. They are apt to prove hard, to make shadows where none should be, and to interfere with the soft melting of tones which yields an harmonious effect. In the monotone gown there are many lights and shadows all of one tone, which the camera will take care of and use with good effect. Black and white, unless it is in a gown of artistic conception, is extremely hard to deal with.

Amidol Stains and Poisoning.—Of such importance is amidol to photographic assistants nowadays, that an easy method of removing the resultant stain on the fingernails should not be out of place here. The simplest preventive of amidol poisoning and the consequent irritation thereof, is to rub vaseline well into the right hand, especially on the back of the thumb and two first fingers. Then with a rag wipe off any superfluous vaseline to leave inside part of fingers "surface dry." The largest batches of prints can be handled without the slightest inconvenience when this precaution is taken.

We do not recommend pumice stone for removing stains; it certainly does its work, but in a very crude and unsatisfactory manner. The best prepared pumice stone more or less scratches the nails, and when used on the other side of finger the result is even worse, as it opens up the pores of the skin and leaves the skin an easy prey to the effects of the chemical first time used. A small cake of soap slightly wetted will easily rub the most persistent stain from the nail or finger without the slightest trouble.

Repairing Celluloid Sheaths.—There are a large number of users of changing slides who get the celluloid sheaths cracked, and fail to satisfactorily repair them with fish-glue. The only reliable solvent is acetone, and the proper cement some celluloid dissolved into it. A simple way to use the acetone without having to hunt up scrap celluloid, or make the crack bigger by applying the acetone (a very easy thing to do), is to cut small strips of plate packing paper, free from pinholes. Choosing a piece long enough for the repair, bend it, if necessary, L-shape. If it is dipped in

the bottle of acetone first one end and then the other, shaking the bottle if needful, and then placed on the celluloid *before it can dry,* and pressed for a few moments, the acetone will cause the celluloid to adhere firmly, and make a neat, thin light-tight repair that won't unduly thicken the sheath. If it is a Wishart sheath, a strip can be put inside the rebate as well as outside by having a spare thick negative in linen holder, and putting the envelope together quickly directly the paper is put into the desired position. This doubles the strength of the repair, and the envelope being complete, enables firm pressure to be applied. There is this advantage, that the repair done this way is dry in a few seconds and the envelope ready for use.

A writer in *The British Journal of Photography* makes an excellent suggestion that should tend to economize much time in the operation of weighing out developers. It is that each quantity required of the several different ingredients should be represented by one specially made weight which can be reserved for that particular purpose alone. The weights can be cut from sheet lead or made up by loading pill boxes with shot or in divers other ways, and it is obvious that the idea can be profitably adopted in the workrooms of the professional photographer where only a few standard formulæ are used, and these are required repeatedly. We may note that we have found the best way of preparing weights where several ounces are to be represented is to cast lead into pill boxes or other small boxes of suitable size. Then cut down or file the lead until the right weight is reached, and stamp the weight upon it. For the purpose referred to it would be better to stamp the name of the chemical that is to be weighed, and then errors should be impossible. As a rule we bore such special weights and put a metal ring through, so that they may be hung up in a convenient position, the boring, etc., being, of course, done before the weight is adjusted. Special weights for a developer could be kept together in a box, so that all would be accessible together when wanted. Cast lead is best for heavy weights, and sheet lead will do very well for medium weights. Small weights, are, however, best snipped out of sheet brass or aluminium. As a guide to the size of such weights, it is useful to know that the lid of an incandescent gas mantle box will hold just 4 ounces of lead, while an ordinary lantern slide box filled will hold just about 4 lbs., and a quarter-plate box about 5 lbs. Weights under 4 ozs. are best cut from sheet lead.

Color Photography

S. Manners has patented a process in which the temporary paper support used in reassembling the multi-colored prints is cut so that its greatest stretch, when wet, is across its narrowest width. For large prints the temporary support consists of two pieces secured at right angles. The temporary paper support consists of white demy paper coated on one side with a solution of gelatin (Coignet's) one part, hard gelatin (Heinrich's) one part, sugar of glycerine one part, and water about twenty parts, the sugar of glycerine being added to make the paper pliable when dry. This paper is first soaked and then squeegeed on to each colored carbon print in the usual manner. For large prints, or prints with full details to the edges, when the soaked temporary paper is squeegeed on to the first carbon color print, another piece or strip of paper, similarly treated and soaked, but cut so that its longest stretch will be at right angles to the first piece, is then squeegeed on to the first piece. Cloth or muslin may be used in place of the second piece of paper. Temporary paper supports may be manufactured in two pieces adhering together with their longest stretch at right angles by using agar-agar, gum, or other colloid rendered insoluble to water by adding bichromate of potash and exposing to light, or by using simply gelatine or chrome alum.—*British Printer and Stationer.*

EDITORS' TABLE

PROFESSIONAL photography is rapidly emerging into a larger and broader field, and optimism is evident on every hand. With the growing interest and enthusiasm in the approaching National Convention, is it not a good time for a calm consideration on matters of universal importance. There is much to be accomplished; there are big questions, of national and vital import, to be discussed. Let us, then, formulate these, and have the Kansas Convention stand for a broader and more dignified deliberation, and a general uplift and help,—such, in a word, as a National Convention should be in its best and truest sense. And above all let good fellowship abound.

THAT portraiture of children is not popular with photographers is evident, and the reasons are obvious. Mrs. Alice L. Becht, in her excellent and suggestive article on "Home Portraiture and the Child," in this issue, not only points out the difficulties, but tells us how they may be overcome. Mrs. Becht has rapidly risen from the ranks of the amateur to a successful demonstrator of portraiture in the home, and few women are better qualified to write on this subject.

EVERY practical photographer must have felt at some time or other the need for simple but full information as to the use of color-sensitive plates and light-filters, when some specially difficult piece of work has presented itself. In the larger cities, of course, such special work is chiefly undertaken by photographers who have devoted themselves to the reproduction of objects for commercial purposes, and it is for this rapidly growing class of "commercial photographers" that the Eastman Kodak Co. have prepared a little book on "Color Plates and Filters for Commercial Photography"; but in the smaller towns such work is often undertaken by a portrait studio, and we believe that this publication will be found of interest and use to almost all practical workers.

In order to really master the subject it is essential to have a clear grasp of the principles involved, and they have therefore especialy endeavored to make these principles clear, confident that if any worker will take the trouble to fully master them he will be able without trouble to apply them to any special cases which may arise.

By the purchase of the Wratten and Wainwright Company they have been able to make available for the American public the unique series of color-sensitive plates and light-filters manufactured by them, and in the near future those plate and filters will be made in Rochester, under the same direction as the English products.

A GOOD many men regard the advertising pages of a journal as merely incidental. It has come to be pretty generally known that the average magazine could not exist without its advertising pages, and it costs more to get it out than the subscription receipts amount to. This is also true of the photographic magazine. There is no magazine of any value that could maintain an existence on a basis of mere subscription income. This means, that if the publishers make any profit, the advertising pages must prosper. Therefore, the advertising pages are a necessity to a magazine, but they are even more so to the man seeking information on the right kind of reliable goods. They are of the highest value to him, and if he does not go carefully through them with as much care as he gives the reading matter, he is sure to lose endless opportunities.

WE cannot forbear expressing our appreciation of the very cordial reception which we received at the executive offices of the great Eastman Kodak Company, when we were in Rochester last month, attending the Dealers' Convention in that camera city. Mr. Noble, chief of staff, was particularly cordial and helpful, and we were delighted to make his acquaintance, and number ourselves amongst the vast army of his friends. It was pleasant to hear the optimistic train of thought which Mr. Noble expressed, and in which we heartily concur. We believe in the future of photography in America, and WILSON'S MAGAZINE will be found in the Booster, and never in the Knocker column.

TEXTILE PHOTOGRAPHY

Lithography and photography are so closely allied that practically every lithographer knows more or less about the latter art and many lithographic establishments have a photographic outfit as a part of their equipment, and use it to good advantage.

Photographing on silk is a comparatively simple process and by it some very beautiful effects can be had. China silk is best to work with and it should be carefully washed, to free it from any dressing, and then immersed in the following solution: Sodium chloride, 6 parts; arrowroot, 4 parts; acetic acid, 15 parts; distilled water 100 parts. Dissolve the arrowroot in warm water and then add the balance of the ingredients. Let the silk remain in the solution about three minutes and then hang up to dry. Sensitize with the following mixture: nitric acid, 1 part; silver nitrate, 90 parts; distilled water 750 parts. Float the silk on this for a moment and then dry in the dark. Print and tone in the usual manner.

NOTES AND NEWS

THE American Photographic Dealers' Association, met at Rochester, on March 24th, 25th, and 26th. The convention was the first ever held by the association, and proved a big success. Chicago was selected as the meeting place for the 1914 convention.

The following officers were elected for the ensuing year: President, C. H. Huesgen of New York City, first vice-president, E. H. Goodhart of Atlanta, Ga., second vice-president, H. N. Fowler of Cleveland; third vice-president, E. H. Heidkamp of Chicago, fourth vice-president, W. R. Hallan of Duluth; secretary, William Hartman of New York City; treasurer, G. L. Kone of Toledo.

A noticeable feature of the entire convention was the harmony and the amount of business transacted. There was not an idle moment, and the delegates left for their homes well pleased with the success of the convention and with Rochester in general. A number of helpful addresses were given.

Herbert W. Bramley, advertising manager for Sibley, Lindsay & Curr Co., spoke on "How to Direct the Dealer in an Intelligent Display of His Goods." Jacques Romono of Rochester a man known in the scientific world from the Atlantic to the Pacific and in the civilized countries over the seas, made one of the hits of the convention in an address on "The Psychology of Salesmanship."

Mr. Romono speaks something like fourteen languages, and he must have thought in all fourteen, for he has a lightning like delivery. Statistics are one of his hobbies. He said there were 650,000 amateur photographers in the United States, and there are 15,000 professionals, a professional photographer for every 6,000 persons. Each year the professionals consume $9,000,000 worth of material and the amateurs $22,750,000. He stated that the average consumption of photographic goods by an amateur is $35 a year and by a professional, $600 a year. He also said there were 8,000 dealers in the United States.

In an address on "Less Knocking, More Boosting," Frederick K. Townsend, secretary and treasurer of the Seneca Camera Company, covered himself with glory. He asked that the members organize themselves into a boosters club and then go out and get busy. His talk had a happy vein running through it, and it was especially interesting to the dealers who were in attendance to get all the good they could out of the sessions.

"Less knocking, more boosting," said Mr. Townsend. "You can tell a knocker from a booster right away. The booster hasn't any old stock on his shelves; the knocker has. That's the whole difference, photographically speaking."

THE Rochester branch of the Professional Photographers Society of New York held a banquet on the evening of March 27 in that City, at which the officers of the organization were guests of honor. Nearly fifty members of the society and their wives were present. The State officers present were: President Howard A. Beach of Buffalo, Secretary Robert R. McGregor of Buffalo and Treasurer Fred Abbott of Little Falls. J. Ernest Mock of Rochester presided as toastmaster. He was introduced by William Withal, chairman of the banquet committee.

At the close of the dinner, plans for the next annual convention, to be held in Buffalo next February, were discussed. It is believed that the success of that convention will materially aid Rochester's chances of securing the 1915 convention. That point was emphasized by nearly all of the speakers in the addresses that followed the banquet.

ON Wednesday evening, March 26th, a dinner was given in honor of Mr. Pirie Mac-

Donald by the Metropolitan Section of P. P. S. of N. Y., to show appreciation of his work for the New York State Convention.

There were thirty present. The dinner committee, Messrs. Falk, Ollivier and Bradley, provided a long list of surprises.

The dinner was given at Hotel zum Schwizerhusli. The menu was decorated with a picture of Pirie in Scotch Highlander costume.

All the boys were presented with Scotch caps.

The next surprise was a Scotch Bagpiper and a comedian who entertained with several character sketches and songs.

The Chairman of the Committee, Mr. Falk, with his usual good form, presented Mr. MacDonald with a pair of Bronze Owles appropriately inscribed in gold letters, to which Mack made his usual good speech of acceptance. Mr. Core, the chairman of the Metropolitan Section was presented with a handsome scarf pin. Mr. Chas. Hallen, who worked untiringly to make the convention a success was also remembered with a beautiful fountain pen.

After numerous Scotch stories and reminiscences all drank to the good health of the guest of honor.

Mr. H. Ward Mills the well known and popular photographer of Wheaton, Ill., has been deservedly honored by being elected mayor of that City. Mr. Mills writes:

"I am enclosing clippings from the two newspapers of Wheaton, with articles marked, with reference to myself that I think may be of interest to many in the Photographic Fraternity.

I was born and have always lived in Wheaton; have been in the photographic business for 27 years. I had the opposition of the two newspapers, the present Mayor and entire City Council. Over $1,000 was spent to defeat me. My campaign fund was $83.00, and came in $1.00 subscriptions. I have been a reader of Wilson's almost all the time, I have been in business and owe a part of my success to the valuable lessons and pointers found in it."

It is of interest to everyone connected with the photographic trade, to know that the firm of G. Gennert has opened up a branch office at 682-684 Mission St., San Francisco, Cal. This gives this firm exceptional opportunity for rapid delivery of all orders in conjunction with their branches at New York and Chicago, which brings every point of the country within a reasonable distance of the base of supplies.

Gennert's New Mounting Tissue and Montauk Bromide Paper are well worth trying. The combination for enlarging or contact prints is most excellent, and we advise all persons interested to send for samples. The bromide paper offers a special large selection of surfaces and grades and will be heartily welcomed by the photographer.

After a most prosperous career in Tennessee, W. E. Daimwood, of Columbia, has arrived in San Bernardino to make his home. Mr. Daimwood has purchased the Hatch Studio of L. A. Hatch, at 433 Third Street, and will open the establishment to the public following the installation of new apparatus, new fixtures and modern photographic equipment.

And Mr. Daimwood is not alone in the business, for Mrs. Daimwood is with him as a celebrated photographer. In competition with photographers all over the country the Daimwoods took the first prize for colored photography and they have received many prizes for their work.

The Photographers' Association of the Pacific Northwest, will meet in annual convention at Bellingham, Washington, August 12-13-14, 1913.

A silver cup will be given for the best exhibit of photographs, any paper, any number of prints.

L. A. Sprague, president, Bellingham, Washington; J. E. Ralston, secretary, 416 Epler Block, Seattle, Wash.

The Eastman Kodak Company, with characteristic enterprise, held a notable exhibition of kodak enlargements in the great auditorium of Carnegie Hall, during the first part of April. There were more than five hundred pictures exhibited, and the attendance was a gratifying indication of the interest of the people in photography. Instructive lectures and demonstrations were given by experts, and there were delightful organ recitals by eminent musicians on the great Carnegie organ during the afternoons and evenings. We are firmly of the opinion that an exhibition of this kind does more to popularize photography than can well be estimated, for it brings the true witchery of kodakery home to those who, otherwise, might not know of its charm.

Varnishing Bromide Prints.—In many cases where bromide prints are used for industrial purposes and are displayed unframed or glazed in shops, factories, etc., where they are exposed to gas fumes, it is well to bear in mind that a preliminary varnishing will avoid the metallic-looking deposit, which in time is liable to disfigure the print. A solution of celluloid is a varnish which gives great protection without giving sign of its presence in the way of gloss. Such celluloid varnish is obtainable from a number of makers, or can be readily prepared by dissolving cuttings of celluloid in amyl acetate. For application to the prints the syrupy varnish as bought should

be thinned down with amyl acetate or alcohol, and used on a camel-hair brush.

Mr. M. Richard Witt has found that bromide paper that has been kept considerably beyond its stamped date-limit can be satisfactorily developed by a developer containing amidol in the usual formula, except that the amidol itself is used in half the quantity prescribed.

The Société Francaise de Photographie will hold a competition exhibition of color photography, open to all persons. All exhibits must be sent, carriage paid, to the office of the Society, 51 R. de Clichy, Paris, France, before April 12, next.

The Burke & James Co. have just placed on the market the No. 0 Folding Ingento, a roll film pocket camera, making pictures 2¼ x 3¼. This is the first of a complete line of film cameras which they will place on the market this year.

The No. 0 Ingento is constructed entirely of metal. The body is covered with genuine leather, levant grain. The metal parts are nickel-pated brass. The bed and back are of aluminum.

The front is automatically extended and is self-clamping, the camera being ready for immediate use upon the drawing down of the bed.

The present model is fitted with a fixed focus achromatic menicus lens of high quality, speed U. S. 8. Later models will be equipped with a double rapid rectilinear and anastigmat lenses, provided wih an ingenious facusing device.

The shutter is automatic and gives time, bulb and instantaneous exposures.

Two tripod sockets and a dustproof, brilliant, reversible finder are provided for taking either vertical or horizontal pictures.

The spool chambers are provided with regulation spool centers and an improved tension spring. This insures the perfect alignment of the film and prevents fogging, owing to the paper on the roll becoming loosened.

The camera measures 1¼ x 3 x 6¼, and can be carried conveniently in the hip or coat pocket or in a lady's hand bag. The picture is plenty large enough for practical purposes, and so sharp are the negatives obtained that enlargements from 4 to 8 times the original can be made. Being constructed entirely of metal, the camera is very strong and rigid. It is beautifully finished throughout. The price is $10.00, and it will soon be on sale at all photo supply dealers.

An exhibition of color photographs made by the Lumière autocrome process was made at the studio of Arnold Genthe, at 1 West Forty-sixth Street, New York. There were landscapes and sea scenes, interiors, portraits from life, and photographs of painted portraits, all reproducing the colors. One with varying bright bits of color is a beach scene with umbrellas in gay tones; an attractive one showed a young woman reclining on the ground behind a clump of deep orange-colored blossoms, and a photograph of a painting reproduces one of Mary Helen Carlisle's famous English gardens.

For any one in doubt of the real color of the ocean there was a sea view showing the water a deep indigo blue, while beside it was a soft gray sea. There were sunlight effects of various kinds—sun in a garden and the setting sun on the water. In the figure scenes a half-length nude reproduces soft flesh tones.

Three of the photographs were contributed by J. Pierpont Morgan. One, an excellent portrait of Mr. Morgan, another an interior, a room in his library, and a third, a photograph of a painting, a famous Guirlandajo. Mr. Genthe has been doing this work for the last four years, but the exhibition showed his latest and best efforts. He believes that color photography has an educational field of its own in teaching persons to use their eyes. The color schemes of the painter are taken frequently as representing the idiosyncracies of the artist rather than as an exact reproduction of nature tones.

These photographs are fixed upon the original glass plates, and there are no duplicates. They are mounted in folding leather cases and are seen in a mirror.

View Meters.—We have often wondered why the view meter has been so completely forgotten by professional photographers. One frequently sees a man set up a large and heavy camera, and after fixing the lens finds that he has to move it for a considerable distance, only to discover thas his subject is still too large for his plate, and that he has to return to his original standpoint and use another lens. All this trouble might be obviated by the use of the oldest and simplest form of view meter, a cardboard mask and a knotted string. A dark-colored cabinet mount should have a rectangular opening made proportionate to the size of the plate in use, and to this a piece of twine should be attached having upon it a series of knots made at distances having the same proportion to the focal lengths of the lenses in use that the opening has to the plate. For example, with a whole plate the opening in the card may be half-scale or 4¼ x 3¼ inches, then for an 11-inch lens a knot would be made at 5½ inches from the surface of the card, for an 8-inch lens at 4 inches, and for a 5-inch at 2½ inches. To ascertain whether a certain lens will bring a desired subject within the limits of the plate, the knot corresponding to its focal length is placed against the cheek bone, and the view inspected through the mask. The correct position can be found instantly, and the camera unpacked where it is to be erected. An old dodge but a useful one!

STUDY OF A HEAD

BY SIRI FISCHER-SCHNEEVOIGT

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. L MAY, 1913 No. 5

A NEW PRINCIPLE IN PHOTOGRAPHIC PORTRAITURE

BY JOHN A. LORENZ

WITH the commencement of picture making with the camera, lighting, at once seemed to be in the mind of its practitioners as all important, and considering that the daguerreotype is the child of light, it is not peculiar, but fitting rather that it should be so; but considering that what was once a science, has for many years been putting forth claims to be ranked as a fine art, those who practice photography and lay claim to be considered artists, must get beyond what has for so many years been spoken of as Rembrandt's manner, and regular lighting, good as they are in the hands of an artist.

I have for about ten years been working on the principle that we can get a portrait that has a lifelike quality far greater than anything that can be produced by studying the old and recognized styles of lighting by reversing our ideas of trying to get beautiful lightings—that is, studying light and shade for their own sake—instead of letting them grow out of the requirements of the plan of our picture. "Lines that breathe in rest of motion," says Bayard Taylor in speaking of the figure of Hylas as he was resting by the sea; now these "lines" are what the artist sees and works for—they are the foundation of the picture.

Sometimes the occasion calls for the Rembrandt manner of lighting; some faces require it, and a successful portrait can be made in that way, and in no other. Again there are faces that require the regular portrait lighting; also with deep shadows. No rule can be given to apply to them, but in each individual case it could be shown why a certain style of lighting must be used to make a successful portrait.

Now, as to my system of lighting which in the great majority of cases, particularly of women, I have found to give more of the spirit of beauty, and in almost all cases a more unmistakable likeness, with less of the artificial about it than any style I have ever used. I have called it the principle of gradation. Being produced by a soft diffused light, it agrees with the delicacy of womanly beauty, and that elusive quality of it which the greatest artists find such difficulty in painting. In other styles of lighting I virtually say to my sitter: I do this to soften something about the face; something else I do to heighten some effect that I like, but in looking to the principle of gradation for beauty, I study to get a view of the face and form that gives me the best lines, and that agree with each other, and then I try to get the beauty the face itself has, instead of trying to produce it with shadows. All the features are there and they blend into each other like the works of the great artists—like those of some of the great Frenchmen of our own day, for instance. Negatives that will produce such portraits must have the quality that prints all through—no blank spaces. I may be asked if it is possible to make a negative that will do all that? Yes. The plastic quality that has such a charm in painting, may be rendered in photography, if we put the amount of thought and feeling in our work that the painter does in his. To make a great portrait in photography, one must be able to think one. If he can do that he will not say, "In making the negative to get detail in the deep shadows I overtimed the filmy draperies," for developing the plate is simply carrying out the thought with which the sitting was made, and if developed correctly, the plate will not have shadows without detail, and the softest lights will not be lost. Negatives made in such a spirit will give a lifelikeness to the portrait that is simply startling.

I compared the work made on my system of the diffused light, with the best things I had made in other styles of lighting, through several years, before I discovered why in nearly every case the likeness is more perfect, and usually has much more beauty. No one could have been more surprised at the results of my investigation than I was.

A SPACE-SAVING DRYING RACK

Some one once aptly defined the commercial racks as "The best means for drying a negative unevenly"; this is not a complete summary of their evils, either. They gather dust, which they transfer with thoroughness and enthusiasm to the wet negative; they are never where wanted and, conversely, are invariably where not wanted; they have a habit of upsetting rather easily and are a general nuisance. Yet we use them—mainly because there is nothing better on the market.

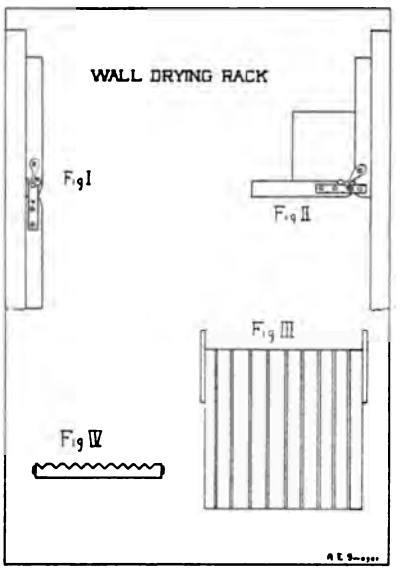
The writer has wrestled with the vagaries of such devices for the last time, a slight jar which shifted a rack full of drying negatives from their proper grooves and scratched several of the most valuable, being the final straw. He resolved to build something which would do away with at least a few of the disadvantages of the old style apparatus, which would stay where put and which could be located at once when wanted—the dryer herein described is the result of this resolve, and contrary to some of

the results which he secures when he takes saw and chisel in hand, it works! Better yet, it costs nothing! If you are filled with the desire to go and do likewise, take heed.

Procure a half-inch board some two feet long and one foot wide—the exact dimensions do not matter, but should be calculated so that the rack will hold a number of negatives sufficient to meet the needs of your business—and lay off straight lines across it at three-eighths inch intervals; one-eighth inch from each of these lines draw another line parallel to it. This will give you a number of pairs of lines one-eighth inch apart, which are the guides for cutting the grooves; to cut the latter, run a sharp chisel at an angle along each line, with the edge of the chisel pointing towards the other line of the pair. This will result in a series of V shaped grooves, which have a great advantage over the usual U shaped type in that the negatives touch their edges in such a manner that the film is not frilled back and a space is left for drainage and ventilation; the negative is held just as firmly, but the edges will dry as rapidly as the centre and without damage. When thus far completed, give the board several coats of shellac, or, better yet, of water-proof cement and nail or screw it to the wall in the desired location. The writer placed his rack over the dark room sink where it was conveniently reached when the negatives were ready for removal from the washing box; this, however, is a matter of taste.

The next step is to groove out another piece of board of the same size; be sure that the grooves correspond with those of the back. To make this coincidence more certain, it is perhaps better to secure a board of the length desired but of twice the width; run the grooves clear across as previously described, and saw the board in half lengthwise; this will give you two pieces, one of which may be screwed to the wall as mentioned in the preceding paragraph.

The second piece is to form the lower half, or drop-shelf, of the rack and should have two strips of thinner wood nailed to its sides as shown in figure III; these pieces will fit outside of the edges of the back board and when a nail is driven through them into the latter a hinge is formed which takes up little room and is not liable to rust. In order that the back and shelf may swing around each other so that the former may be dropped down out of the way, it will be necessary to cut away or bevel their edges as shown in figures I and II;



if you do not care to do this, have the side pieces extend one inch from the edge of the shelf, and sufficient clearance will then be provided—the latter method allows for any expansion of the wood and moreover provides a drainage space which is not a part of the first scheme. Before putting together, this piece should also be given a coat of the water-proof varnish.

A number of methods may be used to hold the shelf perpendicular to the back when raised; a cleat may be fitted to the shelf or a hook-and-eye arrangement adapted, as shown. If the cleat is used it must be hinged to the lower side of the shelf so as to swing laterally out of the way when the shelf is not in use; to make the latter hang flat, it will

be necessary to cut a hollow recess in the shelf of sufficient depth and size to contain the cleat or bracket when it is folded back. Although this is a very solid construction it involves some work in order to make a neat job; the hooks, used by the writer, will support any ordinary weight of negatives easily and are much easier to apply. No directions for the hook-and-eye arrangement should be necessary, but it may do no harm to note that the hooks used should be either of brass or nickel plated so that they will not rust, and they should be arranged to drop down over the pin or eye instead of coming up under it, as in that position there is less chance of their being jarred loose.

A reference to the drawings should make a rack of this type easy of construction, as well as to provide a basis for a more elaborate arrangement should such be desired. Figure I shows the shelf dropped out of the way; figure II the shelf raised, latched and negatives in place; figure III a top view of the shelf showing side pieces and grooves; figure IV an end view of the shelf showing the shape of the grooves.

THE NATIONAL CONVENTION AND WHAT IT SHOULD MEAN TO YOU

To every class of photographer, big and little, whether you are a portrait, commercial or technical worker, you should be a member of the National Association of Photographers for the help such association can give you, and the help you might give to others. It is in such combination and union of thought that ambition is aroused and the best effort put forth and it is the association with such men who give their time and their talents to the educational work, that you are aroused to do your best. The national meeting this year offers to you a program full with helpful and progressive demonstrations and lectures by the men and women who through merit have won a place at the top of our profession. Their interest and attendance at conventions has helped them win their high places and will help you. Every photographer should take an active part in convention work, not only in the National Association, but in your State Association and in your local section work. Keep alive and interested in the need of the profession, show your work in competition wherever you can at these meetings and gather greater knowledge by the comparison with others the standard and quality of your own work. You should send each year your best productions to make the national exhibition the greatest possible credit to our profession. To have your work pass judgment and be hung as being worthy to be shown with the best is a great honor in itself. Then again we need your help, not alone your attendance and your exhibit, but your help as a worker toward better things. To work through your section and State societies to the Congress of the National Association with helpful ideas and suggestions that will bring our beloved profession into the recognition and honor it merits. You can help a lot if you will. Send five of your best productions of the year, any size, framed or unframed. A jury will pass judgment on all pictures presented and reject such as are not worthy, in their opinion, to be hung. From the exhibit a selection of the twenty best will be used for the illustration of the National Annual Record. It will be an honor to merit such a place. Come to Kansas City this year and help to make this year's convention the best of all.

FIRST STEPS IN TELEPHOTOGRAPHY

BY ERNEST MAINAGE

A paper read before the Royal Photographic Society and printed in the Society's Journal

A TELEPHOTOGRAPHIC lens is made up of two lenses or lens systems, a positive lens and a negative lens. These two parts may be mounted at a fixed distance, in which case we have a complete telephoto lens almost as simple in use as an ordinary symmetrical lens, with the advantage that it gives a larger image of the object than the latter with the same camera extension. If, however, the positive and negative lenses are mounted so that their separation can be altered at will, we have a telephoto lens of variable focus. Increasing the separation lessens the focal length of the combined lens; on the other hand, bringing the parts nearer together increases it. This power of altering the focal length is a valuable one, as it enables the photographer to make the image of the object fit the plate in use. You all know that the rapidity of a lens depends upon two factors, the size of the stop or aperture and its focal length: if, therefore, we alter the focal length and keep the aperture the same, the rapidity of the lens is correspondingly changed. Variations in rapidity or intensity of the lens, and trouble consequent thereon, are the price, the only price, we have to pay for the advantage of being able to alter the scale of our picture.

No matter whether the telephoto lens be of fixed or variable focal length, the optical principle of its construction is the same. The front or positive lens creates the image, and the negative lens behind spreads out the rays of light and generally, though not necessarily, brings them to a focus at a greater distance. (The lecturer here showed a slide; on the upper half the path of a ray of light was traced through a positive lens, below that a negative lens was seen to have been inserted in the path of the ray, with the result that focal plane was shifted much farther from the positive lens.)

Dealing with lenses in the order of their simplicity, those of fixed focus, the last to be introduced, claim first consideration. Speaking generally, these lenses are constructed to give an image twice as large as the camera extension would warrant. For example, with a camera extension of 8 inches the scale of the picture is as great as would be obtained with an ordinary 16 inch positive lens and camera draw of 16 inches to match. For pictorial telephotography of landscapes, figure subjects, and portraiture, they are a distinct advance on the earlier variable forms which, at such a low magnification, have very limited covering power. Besides, unless an expensive lens with a big aperture is employed as a positive the rapidity of a variable lens is small in comparison with these fixed focus tele-lenses, which are supplied with apertures ranging from F. 4.5 to F.10, according to the pocket of the purchaser.

There is little need to say anything about the actual working of fixed focus tele-lenses. The apertures are in every case clearly stated; all that remains to be done is to give rather less exposure

than you would with an ordinary lens because the objects are farther away. Rather greater care in focussing is also required. Through the courtesy of the makers I was able to experiment last autumn with a variety of these lenses for the first time. Their great rapidity was the point that most surprised me. Snapshots of barges were made with a focal plane shutter set at 1-20 second, between three and four in the afternoon of November 1, one with an F. 5.4 Telecentric, the others with an F. 7 Bis-Telar. I should have liked to have tried the large Adon similarly, but could not focus it in my camera with the focal plane shutter attached.

Depth of focus, as you are all aware, is a quality or defect in lenses of short focal length; pictorially, I think, we may say it is a defect. Critical definition in the plane or planes of chief interest is essential, further than that, depth of focus militates against accent. Telephoto lenses are long focus lenses and, in the case of the fixed focus types under discussion, have large apertures, two factors, working in the same direction, enabling us to focus on the chief point of interest and subdue the background in a way that is impossible with ordinary lenses, yet by stopping down the telephoto lens it will compete successfully with lenses of shorter focal length. Few people recognize what a handicap a small lens is on both counts—pictorial and technical. The hyper-focal distance, the plane beyond which all objects are equally sharp, depends upon two factors, the aperture and the focal length of the lens. The distance is the same for a 3 inch lens with an aperture of F. 8 as for a 6 inch lens working at F. 32, an aperture which few experienced photographers would think of using under ordinary conditions. Yet how frequently we are told of the good results to be obtained by enlarging from negatives made in thumbnail cameras. Anyone with a critical eye can pick out and recognize the inferiority of such productions.

Let us now reverse the problem, comparing a lens of 17 inches equivalent focus and an aperture of F. 6.8 with a 3 inch lens. What aperture would be required in the 3 inch lens to give equivalent results? Instead of F. 6.8 it would have to work F. 0.2, *i. e.*, the aperture of the 3 inch lens would require to be 1.5 inches in diameter.

In order to show the difference in the results of the two methods of making large scale pictures—namely, by telephotography and enlarging from negatives made with small lenses—I will now show lantern slides made to the same scale, the telephoto by reduction, the photograph by enlargement. Please bear in mind that we are not concerned now with the question of general definition—that I shall deal with later—but pictorial effect. (Four slides were shown to illustrate the lecturer's remarks. One view had been taken with a telecentric lens of 17 inches focus, and, working at F. 6.8, an exposure of one second was given. The lecturer pointed out that one tree was critically sharp, and that the background was sufficiently out of focus not to compete with the object of interest. Another slide of the same subject was then shown. The negative had been made with a Collinear lens of 6 inches focus stopped down to F. 22, in order that its depth of definition might approximate to that of a 3 inch lens working at F. 5.6. The lecturer stated that the great depth of field given by the lens of shorter focus militated against pictorial effect. The next comparative pair showed the slight technical difference in definition between views taken with different lenses, one of 8¼ inches focus, the other of 22 inches focus, but both working at F. 7.7. The view taken with the shorter lens had been enlarged, and that taken with the longer lens had been reduced so that the images should be of the same size on the lantern screen.)

The large Adon alone of the three lenses I have mentioned is capable of variation; that is to say, if it is not extended as the makers tell you to do, its focal length is then greater, and spherical aberration is introduced.

(Two slides showed the effect produced, though as the negatives were made on a foggy day the difference was minimized.)

In dealing as I have done with these fixed focus lenses you may accuse me of going beyond my brief; you have listened to a dissertation on the effect of stops on depth of field, but heard nothing of "first steps." In defense I plead that the only "first step" you need take is the purchase of a lens to suit your camera, then use it much as you would any other ordinary lens.

Different considerations come into play when variable telephoto lenses are used. The magnification is greater, entailing greater need for stability in the camera, as any tremor in the camera will spoil the definition of a telephotograph. With higher magnifications the technical excellence of a telephotograph as compared with an ordinary enlargement is increasingly apparent.

(Four slides showed the value of variable lenses and the technical difference between a telephotograph and a camera enlargement.)

The enlarged slide is a trifle more than four times the scale of the negative from which it was made, and therefore compares more favorably than it would in the form of a print, when an enlargement of eleven times would be required to bring it up to the scale of the telephotograph. With such an enlargement the grain of the original negative would be evident.

With a variable lens the "first step" towards the exposure is to know what aperture the combination is working at. There are several ways of doing this. You can guess it. With plenty of time at your disposal you can find out the distance on the screen, between two points, first with the telephoto lens then with the ordinary lens alone, then comparing the two measurements you get the actual magnification. The lenses have to be screwed in and out several times and a simple calculation in decimals made. For example, a measurement on the negative of the telephotograph last shown is 4.95 inches, the same points in the general view are .45 inches apart; $4.95 \div .45 = .11$, the magnification. The lens was at F. 8, so the actual working aperture was F. 88. Whilst it is a simple matter to measure up distances on negatives and calculate the enlargement at home, it is by no means easy to do so accurately on a camera screen, with one's head under a focussing cloth and exposed to the elements. The changing of the lenses takes time, and the calculation required is more difficult than need be.

Again, it is possible to find the equivalent focal length of a telephoto lens by measuring the separation between the components, a method which gives accurate results for distant objects only. Some makers engrave the magnification on the tube mount of their telephoto lenses, but these figures are, I assume, obtained in the manner just indicated, and are quite misleading when we deal with comparatively near objects, such as the last series illustrated.

The simplest plan is that recommended by the late T. R. Dallmeyer: Measure the distance from the negative lens to the screen, divide that by the focal length of the negative lens, add one, and you have the magnification. This arithmetical operation does not require the mind of a senior wrangler to accomplish it, though from the fuss and splutter that many photographers make of it anyone might think that the calculation would be a suitable and searching examination test. The slight brain power required to work the oracle need not be dissipated over each exposure; all the needful figures can be worked out, say, in half an hour at home some evening and tabulated on "half a sheet of notepaper," or even on a postcard. Then with this card in hand you have only the extension to measure, *i. e.*, the distance from the back of the negative lens to the screen, to look up the magnification that corresponds therewith.

The aperture of the telephoto lens is found by multiplying the stop in the lens by the magnification. That is easy enough, surely. With the aperture

found, what is to hinder any photographer from giving a suitable exposure to a telephotograph?

The magnification table can be combined with a tape measure. This method was suggested by Gilbert Lovegrove in 1903, and, independently, I believe, by E. Clifton at a meeting of the Royal Photographic Society, July 8, 1909. Messrs. Dallmeyer, Ltd., supply such measures. A piece of tape is attached to the end of a measure of such a length that when hooked on to the camera front the zero of the original measure is level with the back surface of the negative lens; with this tape the distance from the lens to the screen is readily found.

Some of the rules of ordinary photographic practice are not applicable to telephotography. In the first place, do not attempt to focus the picture on the screen by racking the body of the camera. Focussing must be done—I am now speaking solely of variable telephoto lenses—by means of the rack and pinion on the mount. Alterations in the camera extension are chiefly required to alter the scale of the picture. If the plate is not covered to the corners, the camera must be racked out further. Should the picture then be too large for the plate, the remedy is to go further from the subject.

Distance from negative lens to screen in inches 4" neg.	3" neg.	F. 8 becomes	Relative exposure.	Square of magnification.	Magnification.
4	3	F. 16	1	4	2
6	4½	F. 20	1½	6½	2½
7	5¼	F. 22	2	7½	2¾
9½	7½	F. 27	3	11½	3⅜
12	9	F. 32	4	16	4
16	12	F. 40	6	25	5
18	13½	F. 45	8	31½	5⅝
24	18	F. 56	12	49	7
28	21	F. 64	16	64	8
35	26¼	F. 78	24	95	9¾
41½	31	F. 91	32	130	11⅜

Explanation of Table.

This table is of sufficient range to cover work with any ordinary half-plate camera. Beginning with a magnification of two times (which is too small to be of general use) and a unit exposure, the alternate lines give particulars of camera draws each necessitating a doubling of exposure (1—2—4—8, etc.), just as occurs in the stops in use with ordinary lenses, whilst the intermediate lines (1½—3—6—12, etc.) lay down conditions that demand an exposure of one and a half times the exposure figure in the previous line. Small as this table is, it is larger than many telephotographers will need. Two negative lenses are provided for, most people only own one, and the last two columns giving particulars of the square of the magnification and the magnification itself are not essential; I should omit the former, retain the latter. Bearing in mind the latitude of the modern dry plate, it will be sufficiently near the mark to give the exposure appropriate to the nearest, preferably the next larger, camera extension. For example, take the distance from a 3-inch negative lens to the screen to be sixteen inches, read this as eighteen inches and give twelve times the exposure that the subject would demand, if taken with the positive lens alone, working at F. 16. If it is necessary to stop the positive of the combination down below F. 8, then the exposure must further be doubled for each successive stop in the usual way. These figures are abstracted, with slight alterations, from "Elementary Telephotography," where particulars relative to other telenegative lenses will be found.

The lens must be kept central. If a long extension of camera is used, this rule may be departed from to a slight extent. Instead of a rising front a tilting table must be used. A tilting table is a necessity for architectural telephotography.

When the camera is tilted the back must be swung until the important vertical lines in the telephotograph are parallel. Under these conditions the back of the camera will not be perpendicular; if it were, vertical lines would be shown divergent. It is not possible to correct for vertical lines in all platts—a compromise must be made.

The advantages of telephotography in connection with architecture first led me to make its acquaintance, and for this class of work the variable lens is supreme. In the case of comparatively near architectural details there is little need to use isochromatic, still less panchromatic, plates or light filters, consequently I have neglected to a large extent the opportunities they offer in landscape telephotography, and no doubt my work in this direction has suffered on this account. No doubt there are others present to-night who can speak from a wider experience of the use of screens.

Lenses may be variable in a direction other than alterations of magnification or scale of the picture. Certain portrait lenses can be adjusted to give increased softness of definition. Whilst on the subject of portrait lenses, it may be as well to point out that snapshot telephotography was possible, and practised, years before fixed focus telephoto lenses appeared on the scene. This slide is from a snapshot which was made with a reflex camera in 1899. Another slide

is a subject taken the following year with an ordinary camera and roller blind shutter. The lens in this case was an 8 inch portrait lens with an unusually large negative lens by Voigtländer. Opticians have very consistently fitted negative lenses too short in focal length, which ought generally to be more rather than less than half that of the positive employed. By so doing they have, I think, tended to discourage telephotography. The longer and larger negative lens has better covering power and can be worked at a lower magnification—an 8 inch portrait lens with a 6 or 5 inch negative lens is not by any means a back number to-day. Some years ago I saw advertised a set of the late T. R. Dallmeyer's telephoto lenses including the combinations mentioned, so I suppose that the 8 inch positive portrait lens and 6 inch negative is practicable. The plus 8 and minus 5 combination I have used for some years, and it will cover a 5 x 4 plate at F. 6.3 easily. I have not tested it for covering power on larger plates.

SOMETHING FRESH

A FEW years ago the photographer's troubles were mainly connected with the technical side of his work; bad tones, mealiness, thin images, red fog, and the like. Thanks to improved methods of manufacture, these worries have practically disappeared, and the problems which have to be faced are more of an artistic or business character. The question of fresh styles, either as staple lines or as showcase attractions, comes under both of these headings, and is one of the greatest importance to the progressive worker.

It is long since the only question with regard to mounts and paper was cost and quality, when albumenized paper and gold-bevel cards reigned supreme, and the possibility of anything else being required was a remote contingency. It is true that there were light and dark surfaces, and also India tints and Oxford lines for groups and views, but there the imagination of the photographer ended. This was in many ways a most desirable state of things, as it was possible to invest in fifty thousand mounts at a time with an almost certain assurance that a sudden change in fashion would not render them practically worthless. Now the case is altered. Instead of monotonous uniformity, there is a bewildering variety in printing papers and mounts, and the difficulty is to decide upon which to specialize. There is a catch phrase which is getting a good deal of wear just now, being used in connection with nearly everything from county council elections to fried fish. It is "Everybody's doing it," and, taking this as gospel, photographers sink their individuality and buy just what the travelers tell them all their rivals are buying. At one time we find all the showcases in the country full of rough brown mounts, and at another full of white plate paper ones, to be displaced by something else as soon as the manufacturers decree it.

This system has all the disadvantages of the methods of the milliner and dressmaker without the compensation of the individual note which is possible in that trade. Of one fact we are certain, and that is that in the best class of photographic business those who display the greatest originality in their style are doing the most business and getting the best prices. The photographer who shows "sepia plats" on rough flexible mounts and sketch portraits is putting himself in competition with at least

three-fourths of his brethren. The visitor to London who is shown the same styles that he can procure in his own town is likely to go farther and try to find something less hackneyed. We do not for a moment suggest that commercial mounts should be avoided, but rather that individual selection should be made from the enormous variety now on the market. Once a new style is selected, it is advisable that it should be boldly displayed, the window or showcase being almost entirely devoted to it. It is advisable to avoid a multiplicity of prices, and for the best quality of work there should be a considerable margin permissible in the actual cost of mounts. The very fact that something more attractive is offered at the ordinary price cannot fail to have an effect on a prospective customer. We think that photographers are to blame for the excessive prices which they usually place upon platinotype, and especially upon carbon prints. Frequently a photographer who is content with five dollars a dozen for silver prints charges two and a half or three times that sum for carbons, with the result that his sales of that particular variety are almost nil. Even if the printing has to be put out only a small extra cost is incurred, and a moderate increase in the selling price would not only yield a larger profit, but give a higher tone to the business generally. It is not our intention to indicate except in the broadest way, what form the season's novelty should take, for if we gave examples or suggestions we should only be helping to make another rut for our brethren to run in, and from such ruts it is our earnest desire to lift them. "Prove all things, hold fast that which is good," which, being translated into photographic terms, reads: Study all the mounts and printing processes on the market, and choose those which you like and which you believe will appeal to your sitters.

NEGATIVES AND PRINTING PROCESSES

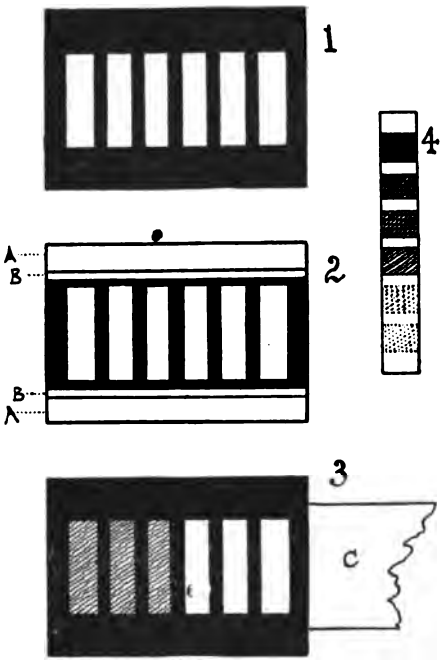
MUCH advice is being constantly given as to the adjustment of the negative to the printing process or *vice versa,* the choice of a paper suitable to the negative. Such advice is evidently written chiefly for the benefit of those who do not, or cannot, make good negatives. And, unquestionably, when one is the unfortunate possessor of negatives of various grades of inferiority, the range of printing papers now obtainable is most acceptable, and is, in fact, indispensable to those, such as trade printers, who have to make the best of negatives coming into their hands. Unfortunately, there is good reason to think that this variety of printing media has led to a certain slovenliness in negative making. "It will make a good-enough print on So-and-so's 'Contrasty Speed-Prynt,'" thinks the amateur; "I think we had better turn on to a rather pluckier paper," considers the professional. And so the scrupulous care—even pleasure and pride—which was formerly taken in the making of negatives experiences a certain amount of relaxation. One cause of such lesser quality in negatives is a too ready acquiescence in the recommendation which is now often made to omit bromide from the developer. Theoretically, the "no-bromide" developer may be right: in practice it is most usually wrong. The dry-plate workers of fifteen years ago

always used bromide, and their technical output was of a higher character than that of to-day. If anyone doubts that this is so, let him ask a trade enlarger. Another cause, too, is the importance now attached to the use of a developer which does not stain the fingers. We do not say that a non-staining developer necessarily yields less good results, but we do say that, with the object of avoiding stain, there is a tendency to choose a developer which may not be the best for the plate. Again, the custom nowadays of taking a much larger number of portraits at a sitting leads to less care in the development of the greater number of plates. From these, and, no doubt, other causes, it comes about that the former ideal of a perfect negative is far more rarely attained. Pity that it is so, because—and this is the point which we desire to drive home—a negative which is ideal for printing in one process is practically ideal also for the other processes. Putting aside certain quite special papers, the negative—of clean shadows, not over-dense highlights, free from veil or fog, brilliant, and a quick printer—will yield a print which is as good as can be desired, whatever the process used, and equally will give a thoroughly good account of itself in enlarging. Every photographer will admit having some negatives which are of this character: the art of securing them in the majority of cases is one we hope to see more widely cultivated, for it will improve the status of every printing process more than anything else can do.

AN EXPOSURE METER FOR ARTIFICIAL LIGHT PRINTING

THE simple method shown and to be described here, for expeditiously ascertaining the correct exposure when printing by artificial light, will perhaps be of assistance to the less experienced worker, and also to the beginner, at this present season of the year, when gaslight printing is all to the fore. As correct exposure is so important a factor in the making of really good prints on bromide or gaslight papers, no effort should be spared in determining such exposure before proceeding to make a print. It will be found that one trial strip of paper exposed with this meter in the manner to be described will teach as much, or more, regarding the correct exposure than would several sheets of paper exposed in a haphazard manner, and eventually thrown over through incorrect exposure. For the construction of the meter, the undermentioned simple materials will be required. A sheet of thin white cardboard, a piece of black paper, half-plate size, and two waste half-plate negatives, the films of which can be easily detached by a preliminary soaking for about half an hour in a strong solution of ordinary washing soda. After detaching the negative films, rinsing, and polishing both glasses, commence operations by damping both sides of the piece of black paper with a moistened sponge. On the margins of the black paper around both sides and ends run a narrow border of "Seccotine," or some similar glue; afterwards place the (sticky side) black paper down on to one of the negative glasses, rub well into contact, and stand aside to dry. When quite dry, mark and cut out the six openings shown in fig. 1. Each

opening should be 2½ inches long and 6-8ths inch wide. To form BB, fig. 2, cut two strips of the cardboard; each strip should be 6½ inches long and 1 inch wide. With some good glue fix the strips where shown by BB, fig. 2. To



form AA, fig. 2, cut two more strips of the cardboard, each of which should be 6½ inches long and 6-8ths inch wide. Glue these two strips on to the top of BB, in the manner shown by AA, fig. 2. To allow the glue to harden, place fig. 2 under pressure for a while. Afterwards place the other negative glass over the side of fig. 2 shown on the plan, and bind up with strips of black paper 6-8ths inch wide, in the fashion of a lantern slide. Finally, cut a piece of cardboard 7½ inches long by 3¼ inches wide, which will form the sliding shutter C, fig. 3. When in use, first place the meter in the printing frame, then the negative on the top of the meter. Place a strip of the printing paper over the densest part of the negative that prints through, and, if possible, also include a bit of the deepest darks on the strip. Insert the back of the printing frame, and push the sliding shutter C down over all the openings. Place the printing frame in front of the light that is to be employed for making the exposures. When all is ready uncover all the openings by withstops. Afterwards place the strip in a fixing bath for a minute or two, then wihdraw, and examine in a bright light, when it should appear as indicated by fig. 4, and the correct exposure be easily ascertained. In many cases the exposures suggested for the strip will have to be increased or shortened in length to suit over-dense or extra thin negatives, and also when exposing by strong or weak lights. The dimensions of the meter have been given for half-plate negatives so as to enable the same meter to be employed for a number of intermediate sizes. When employing the meter for smaller negatives than half-plate, the range of exposures will of course have to be curtailed, so if preferred the measurements can be worked out for any particular size of negative generally employed. One sheet of bromide or gaslight paper cut into either four or eight strips will furnish such a strip as fig. 4, for the making of test exposures upon.

I have had many years' practical experience in retouching by artificial light, and find very good results obtainable with the use of an ordinary sized electric lamp about two inches away from negative (distance, of course, depends on density of negative). Between negative and light is placed a piece of opal and thin blue glass, which subdues light to perfection, giving more the appearance of daylight. An incandescent light or oil lamp treated in the same way are equally as good, where electricity is not used. It is a very simple and easily fixed arrangement, and I find my work proves quite satisfactory by using it.—NEIDA WILSON, in *British Journal of Photography*.

ARE YOU THE MAN?

WHO comes down to the office in the morning feeling that this will be a day of days?

Who has long ago concluded that honesty is the best policy?

Who believes in being the directing mind in your business and letting the detail be taken care of by those you employ for that purpose?

Who figures that one job turned out well, is worth more in returns than ten *ordinary* jobs?

Who is ever on the alert for new business and knows how to take care of the old?

Who believes the world owes a living only to those who are willing to go after it?

Who insists on careful, accurate work both in your office and in your shop?

Who invites criticism that you may strengthen your weak points?

Who is always ready to listen to ways and means of making your business larger, better, and of a higher standard?

If you are all of these, then your business is bound to prosper, your bank account to expand, and your happiness is assured.—*Harris Monthly.*

NOTES FROM LONDON

F. C. LAMBERT writing to the *London Telegram* of the recent "one-man" show of Mr. Craig Annan at the amateur photographers' gallery in London, says: "he is a past master who has left his stamp on the art and history of photography. Those who have not had previous opportunity of seeing a collection of his work should make a special effort to seize this chance. There is one very noteworthy point about this show, viz., that most of the examples are what might—in these rapid and strenuous days—be called old work; and although since many of them were produced, there have been proclaimed numerous "royal roads" to the temple of fame, if not of finality in art, yet in every case these ripened examples easily hold their own against all comers. In Craig Annan we have the comparatively rare combination of a high craftsmanship, keen artistic insight, and a mind strong enough to be entirely unaffected by the ever-changing winds of fashion in picture making."

What is the cause and cure of a bromoil print that reverses, *i. e.*, gives a negative instead of a positive effect? "Reversal, wholly or partially in the pigmented print, may be cured by immersion in a very dilute solution of sulphuric acid," says a writer over the initials G. T. L. in the "A.P." for Feb. 24. We are still in the dark as to the cause of this puzzling phenomenon.

"There is nothing so useful in science as one of those earthquaking hypotheses which oblige one to face the possibility that the solidest looking structures may collapse," said Professor Huxley to Dr. Gaskell. Last week at the R.P.S. we had something like an earthquaking when Mr. Proszynski discoursed on "The Continuity of Cinematographic Vision as a Purely Psychological Illusion, and How to Avoid Flickering in Cinematographic Projection." I suppose I may assume that practically everyone present had hitherto taken it for granted that "persistence of vision" was the basis of moving pictures

from the days of the zoetrope onwards to the present cine shows? By this phrase one means that different pictures succeed one another so rapidly that each is perceived by the eye before the impression of that previously seen has had time to fade away: thus the series conveys one continuous impression. Most of us have accepted this hypothesis from the days of our boyhood when, on Nov. 5, we thrust a stick into the bonfire, then withdrew it, and twirled its glowing end into circles or snakes, giving us the visual impression of a continuous line of light, comparable to the trail of a shooting star.

The lecture syllabus says, "Mr. Proszynski's task is to prove that the idea of this persistence is a mistaken one, that the persistence is so insignificant that practically it does not exist, so that Mr. Proszynski considers the continuity of the cinematographic vision as purely an illusion, and he supposes it may be qualified as a psychological phenomenon." So far as I could gather from a discourse not very easy to follow, no demonstrations or arguments were put forward in support of the somewhat revolutionary view, and the audience did not seem to be convinced of the validity of the new outlook.

That part of Mr. Proszynski's lecture wherein he dealt with the question of flicker was of outstanding interest and of great practical importance. After numerous experiments with revolving cinematograph shutters of a great variety of shapes, he came to the conclusion that the condition for the non-existence of flicker was that the angular size of the leaves and also of the opening must be equal; but that it is not essential that the angular size of an opening is the same as that of a leaf. Thus with a four-leaf shutter we might have in each quadrant a leaf of 40 degrees and an opening of 50 degrees. In other words, the eye is very delicate to perceive very small differences of stimulation and rest periods. The second part of the lecture was devoted to a lengthy description of the Aeroscope kinematograph hand camera.

"Seldom have I enjoyed a lantern lecture so much as I did that given by Mr. Noel Heaton on 'Crete, the Land of Fables,' at the L. and P. last week" writes one London correspondent. This island is almost a "terra incognita" to the photographic fraternity, and, indeed, Mr. Heaton showed us a group of peasants who had thus seen and heard of a camera for the first time—not without some fear of the evil eye of the little black box. Recent digging has brought to light the foundations of the palace of King Minos. The ground plan of this complicated structure probably explains the labyrinth wherein dwelt the half man half bull, or Minotaur. Some remarkable autochromes of the frescoes showed us in a convincing manner that these ancient Minoans had reached a wonderful state of culture some 3,000 years ago. The colors seemed as fresh as the day they were put on the walls. Among other interesting things we were shown the ruins of the church of Titus, the first Bishop of Creta.

"Hypo is a good servant, but a bad master," is an old but true saying among old fashioned photographers. In these days, when the temptation exists to reduce everything to the "press the button" stage, there is a strong chance that hypo may not get quite fair treatment as either servant or master. Some badly stained negatives have just been submitted to me for examination. Inquiry led me to the conclusion that they had been fixed (?) in a very cold bath, which had been in use for so long, that the worker could not give any definite idea as to its age. This points to one of the disadvantages of using an acid bath, *i. e.*, one may be tempted to go on using it far too long, simply because it looks clear, whereas the plain hypo bath gives us warning—or, at any rate, a reminder—by its change of clearness with use. The inexperienced worker is apt to jump to the conclusion that the more hypo he puts into the fixing bath the better it will

work; but this is not the case. We can have the bath too weak, and also too strong. Experience tends to show that that the best strength for daily use at moderate temperatures is from 4 ounces to 6 ounces of hypo per pint of bath.

When introducing clouds into enlargements, and indeed into any prints for the matter of that, there is one point which cannot be too strongly insisted on, viz., the absolute necessity of harmonizing the suggestion of the general character of the sky light with that of the rest of the picture. This seems too obvious to need mention, and yet one is constantly meeting with examples wherein we see a storm-laden, gloomy sky contradicted by a sunny mid-distance, or bright lights and cast shadows in the foreground. One must never forget that the source of light on the land is the sun, sky and clouds.

SHORT CUTS

More people engage every year in the making of photographs, either as a profession or a recreation, and as they gain facility they often discover new things or so improve old methods that the work can be done more easily, more rapidly, and with greater precision.

In focusing when the camera must be placed upon the ground, you may find it difficult to lower your head sufficiently to inspect the ground glass. In that case a small mirror held at an angle of about 45 degrees to the glass will enable you to get a sharp image. If the mirror is of the same size as the plate that you are using, the image will appear exactly as in the finished print; it is also, of course, right side up.

The small mirror is also useful in connection with a direct view-finder, if you wish to dodge the ever-present persons who cannot see a photograph taken without trying to get into the picture. Stand with your side toward the view that you wish to take, and point the lens at it. You can then see the view in a mirror held at an angle of 45 degrees behind the finder, while the "ever-present" will stand in characteristic poses directly in front of you—where they do not harm says the *Youth's Companion*.

A large mirror is useful in making portraits of yourself. If you place the camera upon a tripod, facing the glass, you can obtain a negative that will show you behind the camera, making the exposure. Such a glass, when it forms a part of a dresser or sideboard, is very useful in the taking of interiors. If it is included in the view, it will show the fourth side of the room, which would otherwise remain invisible.

The problem of exposure has been often discussed. The best treatment of it, by the use of an exposure meter, is so obvious that it is not necessary to enlarge upon it here. There is, however, one special case in which the meter will not overcome the difficulty; that is in the portrayal of a waterfall surrounded by dense foliage. If you "snap" the running water, the shrubbery will appear too black; and if you expose long enough to get detail in the dark portions, the movement of the water will make it look like cotton-wood.

In order to show the water as it looks in motion, you must put the camera on a tripod; then, instead of making a time exposure, make a succession of snap shots until the total exposure is as long as required. If you are careful not to move the camera between "shots" the resulting picture will have full detail, and yet give some idea of the flow and sparkle of the water.

TO REMOVE WRINKLES FROM BACKGROUNDS

BY J. L. SULLIVAN

WRINKLES from any cause whatever (provided the paint is not cracked off) may be removed and the background made as smooth as though it had been painted on your frame or stretcher.

New backgrounds are often wrinkled by the ignorant while they are being mounted on the frame, by the fingers touching the back or the front of the background when it is being unrolled. Avoid touching the ground and never squeeze or crush it with your fingers, let it rest gently on the open palms of your hands; while your assistant tacks the top to the frame, first one end, then the other end, and then working from the center to both ends of the top at the same time. This should be done with the frame standing upright. Never lay the frame on the floor to stretch a background as you will probably ruin it.

After the top is tacked begin on the sides at the bottom and work upwards. Do not drive any of the tacks all the way in, you may have to remove them to smooth out any sagging or wrinkles. Then if the background has no extension tack the bottom. All tacks should be about six inches apart.

Wherever any sagging or wrinkles appear, remove the tacks one at a time, stretch the ground gently and replace the tack, working towards the nearest corner. Do this until your ground is as smooth as if painted on your frame. If, however, this is not accomplished by the above, place the background on two or three chairs face down and place a pail of boiling water underneath (keep the water steaming) for an hour, then stand the ground upright and stretch out any sags or wrinkles as before, as the paint will have become softened enough to allow you to do a good job this time. Then drive the tacks all home.

If your ground has an extension, lay a strip of board along the bottom edge and nail through it to the frame to hold the ground until it is thoroughly dry, which will take twenty-four hours, when the strip can be removed. The nail holes will not show in the photo. Have the nails six inches apart—as you did the tacks or the ground will shrink unevenly.

If you use a background carrier for your grounds, you will have to mount them on frames first and proceed as above. Allow them to dry thoroughly when they may be removed and remounted on the carrier rollers. The wrinkles will again shortly re-appear. Can't fix them.

To remove small indentations spray the background gently with an atomizer containing water which has been boiled and allowed to cool. In fact, the atomizer may be substituted for the steam process if you care to take the time necessary to accomplish the result.

Before trying this process on an old ground be sure to dust it thoroughly or it will stain. Brush it vigorously with a soft feather duster until every particle of dust is removed.

To save a background that has been water-stained, if you discover it before it has begun to dry, lay the ground down on the floor and flood it with clean water. Do it quickly and all over, but do not attempt to use a brush or cloth to cover parts you failed to get wet—pour water on them. Then stand it up and allow it to dry. All sides must be tacked as in method for removing wrinkles. This will often save a ground that otherwise would be hopelessly stained. Remember though that nothing will remedy the stains once they are dry at their edges. Paint will not even cover them. I have in experiment, removed all the paint and re-painted stains twenty times by actual count, and the stain came up as strong through the last coat of paint as it was before I touched the ground.

Plate I
By HUBERT BROS., Buffalo, N. Y.
Illustrating Sidney Allan's Article

Plate II

By Hubert Bros., Buffalo, N. Y.

Illustrating Sidney Allan's Article

Plate III

By Hubert Bros., Buffalo, N. Y.

Illustrating Sidney Allan's Article

Plate IV

By Hubert Bros., Buffalo, N. Y.

Illustrating Sidney Allan's Article

Plate V

By Hubert Bros., Buffalo, N. Y.

Illustrating Sidney Allan's Article

Plate VI

By Hubert Bros., Buffalo, N. Y.

Illustrating Sidney Allan's Article

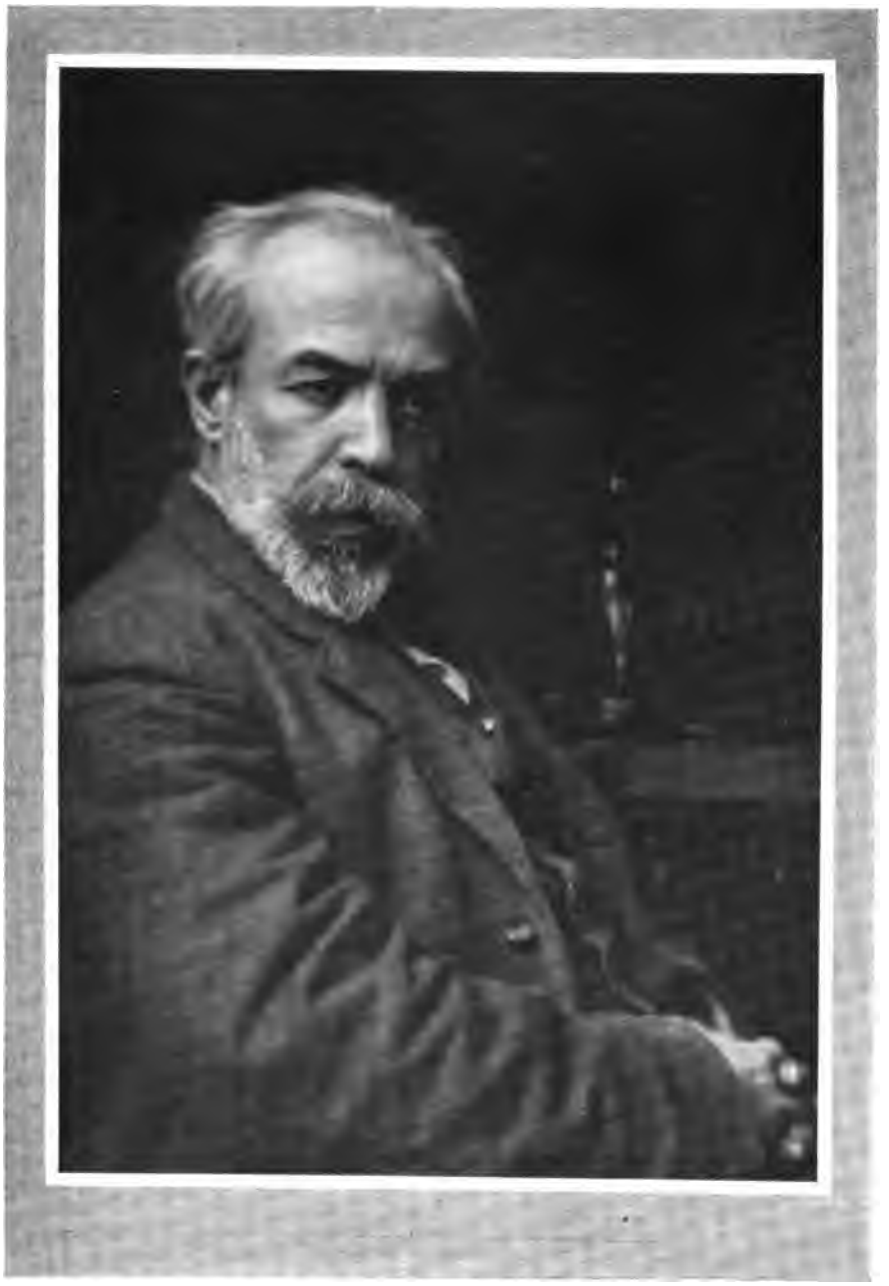


Plate VII

By Hubert Bros., Buffalo, N. Y.

Illustrating Sidney Allan's Article

Plate VIII

By Hubert Bros., Buffalo, N. Y.

Illustrating Sidney Allan's Article

PORTRAITURE AND PICTURE MAKING

BY SIDNEY ALLAN

THE exhibition work of the Hubert Bros. of Buffalo shows a peculiar tendency. It is portraiture, and yet displays a certain quality which is rarely met with in professional portraiture. It is not merely a pictorial quality, an endeavor to place the subject in as picturesque manner as possible. All up to date portraitists from Hutchinson up or down to Käsebier have that inclination. The Hubert Bros. go another step, not necessarily farther but in a different direction. They try their hands at actual picture making, *i. e.*, they want to transform a portrait into a picture of popular interest.

A noteworthy ambition. But can it be done? Their picture "At the Opera" that won ready approval in European exhibitions, no doubt represents their supreme effort. They were never able to repeat its success. All their other pictures reveal the ambition and struggle to accomplish something similar, but the result never reached the same level of perfection.

I use the word "perfection" discriminately. "At the Opera," in a way is a perfect picture. It is artistic portraiture and conveys a premeditated sentiment, which is a popular one, easy to grasp and appreciate. The dim atmosphere of an opera box while the curtain is up, and the attitude of interest of the two occupants is rendered about as well as it can be. The average beholder, no doubt, is highly pleased, and even the critical observer, at the first glance, can not help admiring its cleverness of execution.

Yet, it is far from being an accurate interpretation. Of course, we realize at once, that the scene was not taken in a theatre, and that the procession, the light effect on the stage, and the curved line of the railing are faked. There is no particular objection to this, as long as faking is permissible at all, and pictures of this kind can not photographically be made without faking. The most serious objection is that the lighting is all wrong. Where do the high-lights on the faces and busts come from? From the stage? Then the lower parts of the figures are entirely in too light a key. Of course, there may be some light appliance in the rear part of the box that would emit a subdued light, and it may be imagined to come diagonally downward from the outside, but in that case the figure to the left would be in a stronger light than the other one. Besides, the light seems to come from below as the high-lights in the profiles indicate. No, the principal source of light is supposed to come from the stage. This was surely in the photographer's mind when he began his manipulations. And this conception has one merit, it produces the general effect. With more definite and logical lighting the picture would be a more truthful study, but lose its sensational and popular quality.

This false lighting also enabled the photographer to show the entire figures and in that way preserve the necessary portrait quality of his print. And this is the crucible point for all portraitists with artistic aspirations. Portraiture to be acceptable has to be well defined. Picture making is the carrying out of some pictorial idea. The two propositions clash. One can not bring them into real harmony. Even "At the Opera," unique as it is, does not solve the problem. It is something between a portrait and a picture, and for that reason efforts of

this kind are never more than clever stunts.

A print like fig. 7 is really more artistic. Of course, it is less ambitious, on an entirely different scale, but the impression it makes, although less startling, is more genuine.

Let us see how the Hubert Bros. manage the pictorial element in less ambitious pictures than fig. 1. To me figs. 3 and 4 appeal the most. There is a certain breadth to them, which is lacking in the treatment of the others. Fig. 7, a father showing a picture book to his two youngsters, is not much more than a clever portrait group. The softness of the print is due to the blurred effect. The photographer had drawn in a glimpse of an interior to the left, but I advised him to take it out. Pictorially little was gained by the introduction, and as it was rather hastily done, the print looked more dignified without it. Additions of this kind must be done either very well or not at all.

The Young Mother and Boy, fig. 2, is an excellent composition as far as the main lines are concerned, but there are too many minor interests that confuse the eye and take away from the total effect. If the lady had worn a simpler bodice, the chummy attitude of the two heads would have been brought out more clearly. The photographer says this was a case where I could not help it. I could not send the lady home to change her dress. True enough, but in that case he should have tried another scheme of composition. Profusion of detail seems to be the principal shortcoming of these prints. What an excellent picture the portrait of an old lady, fig. 5, would have made without the numerous folds of the patterned gown. The two shapes formed by the white shawl are so pronounced that the remainder should have been treated with utmost simplicity. Instead of that, we have a patterned gown, an elaborate bow, two hands holding a handkerchief, a wicker arm chair, a rug, a cushion and a settee in the background, a hundred unnecessary and confusing details which all detract from the face.

And the same could be said of fig. 6. The face in itself is so strong that nothing could detract from it. Why then introduce the shawl? The picture apparently was made to show the minutiae of facial construction. It is well done, but would be much stronger in its effect if nothing but the face were shown. Fig. 4 proves this. There is no accessory but the comb that gives a lucky accent to the hair. Any further detail would have injured the picturesque expression of the face. And the pictorial element in this instance was produced by the attractiveness of the sitter and the scheme of lighting, after all the most legitimate and reliable factor in picture making.

In fig. 3 we have comparative simplicity. There is still an abundance of detail, but the interest is at once centered upon the faces. The same should be the case in fig. 2, where a beautiful composition is spoiled by careless, or rather too elaborate arrangement. The Hubert Bros. surely know how to pose. Their sitters all assume a picturesque attitude. What they still have to learn is breadth of treatment.

Of course pictures like figs. 2 and 3 that carry out a delightful mother and child sentiment, can not be composed as simply as a male figure, fig. 7, but by a skillful suppression of details, the tone and space arrangement would become more pronounced, and the story would be better because more simply told.

The aim of the Hubert Bros. to animate portraiture with a popular sentiment, is one of the most difficult problems in pictorial photography. No doubt, it can be accomplished, as some of their efforts indicate. Successfully and esthetically satisfactory, however, it can be done only when the pictorial element is made secondary to the portrait interest. The fault of the Hubert Bros. does not consist in any inability to get a good likeness—for all the accompanying illustrations are portraits—but rather in a too enthusiastic use of accessories that could be handled with more artistic balance and precision.

SUCCESSFUL PHOTOGRAPHY FOR WOMEN

MANY a woman who longs for the career of an artist is unable to afford the necessary outlay in time and money. Yet if she have imagination and the capacity for taking infinite pains, she can become an artist photographer in half the time and at far less expense. She will not have to search for her subjects. All about her are people anxious to have their pictures "taken." And just at hand are scenes, gardens, homes, and historic buildings.

Sometimes it pays extremely well. Last year, says *The Times,* a celebrated London portraitist came to New York and, going to the homes of fashionable folk with his camera, took sittings for which he asked and received $100 apiece. He had no expensive studio over here to maintain, no large equipment. But he had his years of study and experience to draw upon, his trained sense of the values of light and shade, his instinct for composition—and his camera. Most of all, his work was absolutely individual.

If one desires to bridge quickly the initial experiment period, there are schools for the teaching of composition and for demonstration and experiment. Columbia University has a department where photography is taught as an industrial art, and there are other schools for instruction throughout the country.

"But what have successful women photographers done, and how did they begin to work?" demands the interested girl or woman.

One woman has become famous through her pictures of cats. Another supplies thirty-seven magazines with illustrations. Frances and Mary Allen of Deerfield, Mass., with little previous instruction, began by picturing colonial homes, which they peopled with women wearing the old time dresses and engaged in the old-time occupations. In New York there are at least eight or ten women, each working in her own way, and each producing pictures known and admired both here and abroad.

When Mrs. Gertrude Kasebier, one of the first women to make photography her profession, was asked how she began, her answer was: "After my babies came I determined to learn to use the brush. I wanted to hold their lovely little faces in some way that should be also my expression, so I went to an art school; two or three of them, in fact. But art is long and childhood is fleeting, I soon discovered; and the children were losing their baby faces before I learned to paint portraits, so I chose a quicker medium.

"My first outfit cost me about $30, and with that camera I did work that I love to think about; finding my way, as I did, into that wonderful complexity of light and shade. Then I thought I ought to have a larger camera. So I bought one—and couldn't do a thing with it! I had to learn all over again. Indeed, it is always study—study and experiment—until one succeeds in putting forth individual work. Nothing else counts. And you can't make good photographs without imagination. That is something which must go on every plate that's made."

Mrs. Lillian Baynes Griffin was found at the Camera Club. Mrs. Griffin took the bronze medal at the international exhibit at Budapest, the Crossfields silver cup for the best portrait at the Hartford exhibition; first, second, and third mention for the Berg medal competition at the New York Camera Club, and her portraits of distinguished people have won an enviable place for her in her art.

"I took up photography," she explained, "five years ago as a means of support. I had been a magazine writer,

but illness and shock made it impossible for me to adhere to a profession which kept me at a desk. I had been associated much with artists, so when photography was suggested to me I turned to it. It helped me to get well, since it demands continual activity and concentration of mind upon one's work.

"When I bought my first camera I had to get the dealer to show me how to use it. With it I did my first successful work—fifty-seven illustrations for Miss Tarbell's book, 'The Flower Garden.' After this I did work on speculation and sold my prints. I soon earned enough money to buy a 6½ by 8½ camera, and then began to make portraits of my friends. This work, too, was on speculation, the agreement being that they were to sit for me, and if I got a proof that was satisfactory the order was to follow. Portraits lead to exteriors and interiors of houses, one of the most fascinating branches of our art. But one must grow into one's work, live it, make it part of one's self, and then inspiration comes about what to do and how to do it."

Think of being able to pick up a camera and to travel forth with it in search of adventure, with the certainty of finding it! That is what Miss Frances Benjamin Johnston and Mrs. Mattie Edwards Hewitt are doing. Together they have photographed some of the most beautiful homes in New York, and they enter into contract work for picturing public buildings with the same confidence that men do. Together they took the pictures of the New Theatre. Miss Johnston, like Mrs. Kasebier, was early in the field. She was the only woman juror on the Board of Photographic Awards at the St. Louis Exposition, and has received from the French Government the decoration of Palmes Academique.

She and Mrs. Hewitt had just come back from Glen Cove L. I., late one afternoon, with thirty plates which they were going to develop that night, when they were intercepted at their studio. Miss Johnston said that when she returned to her home in Washington, D. C., after studying painting in the studios of Paris, she did not find much enthusiasm for American art. So, through a journalistic friend, she began making illustrations for a newspaper, turning afterward to photography as the more accurate medium.

So interested did she become, that she began to experiment with the camera, trying to do the things that people said could never be done with it. She succeeded in taking prints in all sorts of light and almost without any light at all. She has not only done notable work, but has carried her camera half around the world in search of her subjects. Among other interesting experiences were those she had when she was sent to find Admiral Dewey on his return from Manilla Bay.

Mrs. Hewitt says that, for her part, she began by taking the chickens in the barnyard at home, the cat, the dog, and any other available live stock. In her later experience she has taken lions under Bonavita's whip and voice. Her specialty is getting action into a picture; but in the case of the lions she was rather more concerned about confining the action to the photograph and not getting mixed up with it herself.

"I began because I had to make my living," she said, "and I keep on because it is the most fascinating of arts. There is always something to learn, and there are constant discoveries and inventions with which to keep up."

"It was all an accident, our taking up photography," said Miss Lily Selby, who, with her sister, devotes herself to portraiture. "I had taken a science degree in college in England, and after that an art course, intending to devote myself to illustrating. With this in view we came to New York. While we were looking about for a studio we were offered one that had been a photographer's. But it was stipulated that along with the studio the purchaser must take the camera and equipment also.

"We wanted the studio, but not the outfit. Still, we began to be curious about it and finally wondered if we might not take it as a speculation. So

we decided to have a try at it and began experimenting with the lenses and plates. We became more and more fascinated all the time. My knowledge of chemicals and my artistic training stood us in good stead, while my sister had the necessary executive ability. I might not be so rash today."

"I began when I was a teacher in Massauchusets, with a small camera that cost me $1.75 for the whole outfit," said Mrs. Jessie Tarbox Beals. "In a week, I had discarded it for a larger one, and in five weeks, that one had earned for me $10.

"The next summer I went to Chautauqua, and there I decided to take up press work. After that I wanted to go to the World's Fair in St. Louis with my camera, so I provided myself with credentials from two papers. But when I got there the official photographers had all been appointed. Nevertheless, I found a place to set up my camera and began to take pictures. One morning word went around that the Patagonians had come, and that there were no official photographers on hand, so I started out to find them. I got some fine prints, but when the men photographers turned up that afternoon the South Americans, who apparently had been surfeited with posing for one day, tossed them over a fence near by and flung their cameras after them.

"After that I began to do ethnological work, picturing the mothers and babies gathered there from all over the globe. Mr. Taft wanted me to go to the Phillippines, but I could not. I am photographing tenement house conditions now for the purpose of reform, tuberculosis prevention work, making records for the Society for Prevention of Cruelty to Animals, the Society for the Prevention of Cruelty to Children, the Health Board—work that I could not do a year ago, but which I have grown up to."

Edith Tracy is a member of the Camera Club, whose work has been chosen for exhibitions in Italy and England. She has received medals and mention in many journals. She and her sister took up photography as an amusement and went to a Summer school in Massachusetts to study composition. They soon found that photography is expensive without remuneration, so they began to charge for their pictures. Instead of having less to do, they had more. When the time came that they were thrown on their own resources they were already established in a paying business.

Mme. Aimé Dupont maintains two successful studios. Though American born, she married in France and lived there a number of years, her husband being an artist and a sculptor. M. Dupont became interested in photography and finally decided to open a studio in New York.

They began very modestly, indeed, up in Harlem. Madame attended to all of the business of the studio, leaving her husband free to look after the portraits. But M. Dupont fell ill just on the eve of an engagement to make a portrait of Mme. Emma Eames, then creating a furor in New York. Mme. Dupont knew that the engagement must be kept.

"I had no experience in taking pictures," she says, "but I had always been associated with artists and had an understanding of line and light. My knees trembled and my hands shook, but—I took the picture of Mme. Eames, and it was a success. Then—well, I kept on."

M. Dupont's death followed shortly after, and she took up his work, keeping the studio under his name, and opening another in Newport. Mme. Dupont attends to all of the posing herself.

It will be seen that each of these women photographers ascribes her success to the same things—work, study, and experience, together with the real artistic feeling which brings success. What if the family does complain that the aspirant improvises a "dark room" in the bathroom or does her finishing in the laundry? If she keeps on she'll make her way in a profession which takes little original capital, but which does demand pluck, sincerity, and the will to succeed.

THE CAMERA IN THE FAR EAST

BY A. E. CARLETON
Vice Consul, Hong Kong, British China

THE most notable feature in the photographic trade in China at present is the tremendous increase in the exports from Japan, which in 1908 amounted to $26,000 and in 1911 to $53,000 gold currency.

On the other hand, the United States, the greatest producing country in photographic materials, has apparently decreased its exports to China and in fact ranks fifth among the importing nations, with a total value in 1911 of $6,444. Great Britain and Germany likewise have suffered a diminution in their export trade, although the latter country has maintained fairly well its share for the past four years. Great Britain has felt the Japanese competition to the greatest extent, as its direct exports to China for 1908 were valued a $91,802 and in 1911, $68,970. In the analysis of the trade with China, Hongkong plays an important part, and the decreased exports of the United States and Great Britain are in a measure accounted for by the Hongkong exportations to China. These exports have nearly doubled in the past four years. The Chinese Maritime Customs returns do not of course indicate the origin of the Hongkong imports, but it is undoubtedly a fact that fully 90 per cent. are imported into Hongkong from America and England, these two countries having about equal shares of this trade. Although the local demand for photographic material is undoubtedly great it is probable that the larger percentage of the imports into the colony are redistributed among the treaty ports of China, and in this way add materially to the value of the photographic business of America and Great Britain with China.

In a general way the kodak is only known in the seaports of China. The better educated Chinese have taken to the art with great enthusiasm. The Chinese are fast becoming experts and are very keen on having the best cameras and becoming acquainted with the latest developments. In regard to color photography the Japanese insist on tinting their films, whereas the Chinese prefer to study the difficult art of the use of chromoplate and screened lenses and to get their natural colors in that way. The medium-sized kodak seems to be the most popular among the Chinese, while the larger sizes are particularly desired by the Japanese; likewise plates are more in use in Japan than in China.

The imports of photographic materials into China for 1910 and 1911 were as follows, the haikwan or customs tael having been reduced to United States currency at $0.66 and $0.65, respectively:

Country of origin	1910	1911
Hongkong	$28,759	$26,024
Great Britain	80,637	68,970
Japan	35,196	53,329
Germany	9,557	8,750
United States	6,703	6,444
Other countries	26,592	18,116
Total	187,444	181,633
Re-exported	7,810	12,227
Total net imports	179,634	169,406

The PAST is of no importance. The PRESENT is of no importance. It is with the FUTURE that we have to deal. For the PAST is what man should not have been. The PRESENT is what man ought not to be. The FUTURE is what artists are.

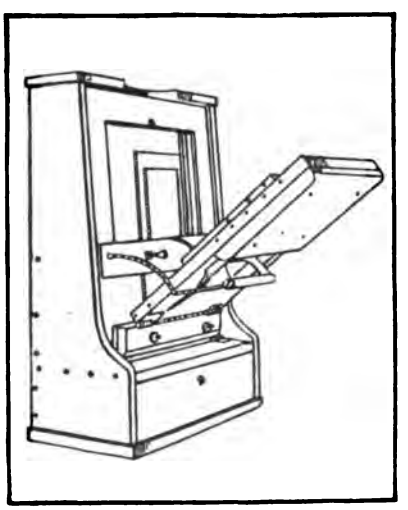
PHOTOGRAPHING THE ALPS

THOSE of us who have been fortunate enough to visit the Alps and to climb over their icy slopes, know how difficult it is, even with a guide or two in attendance, to brave the cold wind of their icy slopes; how dangerous it is to cross some of the crevasses, where a slip means certain death. To carry a small camera in some places is next to impossible, yet Monsieur Tairraz, with the assistance of a porter, made his photographs with a 16 x 20 camera, using glass plates. Days of sunshine are rare in the high Alps, and again and again he had to descend without pictures, owing to snowstorms, high winds and avalanches; consequently, the pictures shown were the result of several months' work. There was no posing, for the climber on Mount Blanc has little time for this, as he must make the climb in a certain time or run the risk of being frozen to death. In order to obtain the pictures, Monsieur Tairraz usually went ahead of the party and found a point of vantage which he knew the climbers must pass. In order to do this he had to leave the regular track as laid off by the guides, and several times he fell into crevasses, although he declares he never had a serious accident.

After a picture was made he followed the climbers to a point where they rested, and after resting only a few minutes he went ahead again and set up the instruments, waiting until they passed. Sometimes it was necessary for both himself and the porter to hold the big instrument to keep it from blowing down the mountains. Coupled with this it was always intensely cold, and his fingers were many times so numb that he could scarcely remove the plate holder. Of course, every picture was not to his liking, so he tried again until he succeeded. "To be sure, it was dangerous," he said in French, with a little shrug of his shoulders, "but I wanted the pictures and it was the only way." This was said in a simple, quiet way, yet this man has taken more risks and made more sensational pictures, than all the other Alpine photographers together.—*Leslie's Weekly.*

PHOTOGRAPH PRINTER

FOR photographic printing a Texas man has patented a somewhat elaborate machine, which is claimed to both facilitate this artistic feature of photography and to make the results surer. A casing with a door in front has a frame hinged in the rear. This frame carries a transparent plate for the negative to rest upon, and hinged to the frame is a plate that holds the printing paper against the negative. There is also a clamping device that removably holds the negative in position on the plate and a mat that slides up and down in front of the transparent plate. Normally this mat is at the bottom of the frame, but it can be fixed at the top when required. With the apparatus the printing of a photograph can be inspected as often as desired without danger of spoiling the result.



EDITOR'S TABLE

WE believe that a photographic magazine is of no value unless it is of *real* value. Photography and its advancement will be our chief aim, and to accomplish our purpose we invite contributions bearing especially upon practical subjects from all interested in its progress. We invite queries from all desiring practical information, and our pages shall ever be impartially open for discussions on all topics of interest pertaining to the profession we advocate.

WILSON'S is not being published from sheer fancy, or for the sake of pushing the interest of any one particular mercantile house. The editor of this magazine desires to help, instruct and assist those who practice photography, not only as a diversion, but as a profession, and it is our determination to make the newer WILSON'S the best possible photographic magazine in this country. The earnest co-operation is asked of all of our readers who desire a useful and convenient medium of current thought and practice on the growth of photography; who desire a skilfully prepared and carefully filtered, judiciously boiled down, attractive collection of all really valuable matter from all parts of the world; for those who desire a thorough knowledge of what the great workers in photography, everywhere, are thinking, saying and doing. In a word, to present the whole world's photography focused. And, finally, to have WILSON'S an escape from all the narrow ruts of prejudice and self interest, often disguised, which come from publications issued for private ends, and not for the real help of those who pay for them. We mean to have WILSON'S a satisfactory and well paying investment of *real* value to every one of our readers.

WE wish to make an earnest appeal for help for the photographers of Ohio who have lost practically everything in the recent floods. In many cases their studios and homes have been washed away; and even with apparatus rescued, they cannot do any business for a long period. The response throughout the United States should be prompt and generous. Send you cheque, however small, at once to Mr. L. A. Dozer, Treasurer of the P. A. of A., Bucyrus, Ohio, who has consented to act as temporary manager of the relief fund.

WE regret to learn the death, on March 28 last, of Mr. E. W. Foxlee, who for over forty years was associated with the *British Journal of Photography*. In his early days Mr. Foxlee was engaged professionally in photographic portraiture. He was a worker in the Daguerreotype process, and was actively connected with the progress of photographic processes through the days of collodion positives and wet collodion, and down to the era of dry-plate emulsions. Most of his work, however, concerned the carbon and other methods of bichromate printing, and for some years he was actively connected with the manufacture of carbon tissue by the Autotype Company. He was a life-long member

of the Photographic Club, and one of the few who continued his attendance at the meetings of that body during the recent years when the club had long ceased to be the medium for the exchange of experiences among early workers in dry-plate and other processes. Mr. Foxlee's interests covered a wide field.

Many will deplore the loss of an old comrade, and photographers generally have occasion to feel regret at the passing of one who had followed the continued progress of photography throughout its seventy years' history. At the time of his death, which took place after a painful illness of more than two years, Mr. Foxlee was over 80 years of age.

OUR readers will note the new cover design by Frederick W. Goudy. In discarding the old familiar dress we are but taking one other step forward with the progress of the times. Even the dress of a magazine can become worn and out of style, but the character and high standard of WILSON'S as established by its founder, will be maintained.

IMPORTANT ANNOUNCEMENT.

WE have been so greatly encouraged by the results of our efforts to restore WILSON'S PHOTOGRAPHIC MAGAZINE to its former position of prestige and influence, that we have decided to revive, also, the publication of PHOTOGRAPHIC MOSAICS, the useful, popular year book and Annual Record of Photographic Progress, founded by Edward L. Wilson in 1864, and only suspended when failing health witheld his faithful pen from further service in the interests of photography and photographers.

PHOTOGRAPHIC MOSAICS for 1914 will be a great improvement over the earlier volumes of the series, as it will be amply illustrated with pictures by our leading photographic workers, both professional and amateur. It will be packed full of meaty articles on practical subjects by those who know what they are talking about, and it will contain a department of useful hints and practical suggestions, and also a comprehensive description of the latest and best photographic apparatus and material, which all practical photographers should know about. George Murphy, Inc., of 57 East 9th Street, will be the trade agents and wholesale distributors of the book. Advertising rates and other particulars may be obtained by addressing the publishers,

EDWARD L. WILSON CO., INC., 122 East 25th St., New York City.

THINGS are apt to be not so artistic as one thinks.

KEEP your nerve. Everything worth while has not already been said and done; and we are not dead yet.

THE following pages have some good pointers on developers, and are well worth looking into most carefully.

NOTES AND NEWS

ENCOURAGED by the success of his class of the last three years, Mr. Clarence H. White will continue the class in photography this summer at Seguinland, Maine, from July 7 to August 2. Studens will receive individual instruction in the use of the camera; in developing, printing, enlarging, etc., and have the benefit of his personal supervision in the special work of landscape photography, for which Seguinland offers an abundance of interesting material. A picturesque cottage arranged for studio work will afford the students every facility for practice. The cottage has been fitted as a studio work shop. Seguinland offers such a great variety of subjects for photography that every type of camera outfit can be used.

Mr. F. Holland Day will co-operate in criticism of the work of the students and Mrs. Gertrude Kasebier will visit the Seguinland School of Photography this year and will co-operate with Mr. White and Mr. Day in criticising the work of the students and lecturing to them on such matters as she feels will benefit them in their work.

Exhibitions by well known photographers will be given during the session. An exhibition of work by members of the class will be

given at the close. Talks on pictures and composition will be given in the evenings, illustrated by means of the stereopticon.

For any other information write, Clarence H. White, 5 West 31st Street, New York.

Mr. L. H. Jeffries has accepted the position of manager of the retail department of the Northern Photo Supply Co., Minneapolis, Minn.

He has been connected with the photo supply business for more than eighteen years, and thoroughly understands every branch of the business. He is energetic, ambitious and desires to please his customers, is well known among the photographic trade, has a large following, and is universally liked by all who know him, and the Northern Photo Supply Co. consider themselves fortunate in securing his services, as he will prove a valuable asset to their already large force.

On April 18th, Mr. S. W. Whiteman, of the Ansco Company gave a demonstration of the use of Cyko paper before the students of the photographic class of Syracuse University. The morning was devoted to the production of prints on the various grades, normal, soft and contrasty, one negative being used thus showing very clearly the great power placed in the hands of the photographer, by choice of suitable paper, for obtaining any desired effect. In the afternoon the result, as regards gradation, of modifying the developer was very fully shown, and the methods of obtaining sepia and warm toned prints by the hypo-alum and redevelopment processes. The usual class time was considerably extended at the student's request, the counter attraction of the first baseball game of the season apparently having little or no attraction in the face of Mr. Whiteman's lecture.

Both the large and small Ansco direct printing machines were used and these were generously presented to the school by the Ansco Company.

Professor E. J. Wall informs us that he will be pleased to arrange with any firm for a demonstration of their manufactures. The school is equipped with a good dark room, electric lantern and provides all chemicals for the students' use, but they have to provide their own sensitive materials.

Some idea of the work done since the school opened in January last may be gathered from the subjects set for the practical part of the examination which takes place next month. Each student is required to hand in two 6 1/2 x 8 1/2 negatives of the exterior of some building on the campus, one interior negative, one cloud negative, a development, a silver, a platinum and a carbon print from one of the above negatives a lantern slide and an enlargement, to reduce and intensify a negative, develop plate or films of unknown exposure and give a five minutes lantern show with the electric lantern.

The next school year opens on Sept. 12, and full information can be obtained on application either to Dean Parker or Professor Wall.

We reproduce herewith a copy of a letter sent by the Photographers' Association of America to the Government and this matter has been left in the hands of Mr. Will H. Towles of Washington, D. C., the second vice-president of the Photographers' Association of America.

The substance of the letter is as follows:

"March 14, 1913.

"To the Hon. Postmaster-General,
"Washington, D. C.

"Dear Sir:

"Under the rulings of the parcel post system to date, the mailing of photographs is prohibited.

"The photographers of the United States, through their Association and various organizations, and as individuals, consider this ruling as an injustice.

"*We are informed that you have the authority to regulate at all times* articles to be received, rates, weights, etc., and we desire to hereby appeal to you to permit photographs to be received as parcel post matter.

"This affects thousands of people, especially the masses, who in the end, have been forced to stand the express rates charged for such packages.

"A ruling by you to admit photographs as parcel post matter we believe will be gratefully received by the Association and the people generally, and especially by the thousands of photographers of the United States and will further save the people thousands of dollars annually, and will also, in this manner, promote the object of the parcel post system by saving the masses large express charges on small packages.

"Anything you may do in this respect for our benefit will be most highly appreciated.

(Signed) "Will H. Towles."

Prof. Felix Raymer on February 1, after fifteen years of teaching at the Illinois College of Photography, left to take up his new position in the Studio de Luxe of Dallas, Texas.

The Eastman Co. have just issued two very attractive and complete catalogues for 1913 on their Kodak and Premo cameras, both of which contain much of value and interest pertaining to their full line for the advanced photographer as well as the amateur. Each book contains an excellent colored frontispiece of prints made by these standard cameras, and are the most artistic we have seen. Copies will be supplied by your local dealer or by writing to Rochester.

CORRESPONDENCE

Correspondents should never write on both sides of the paper. No notice is taken of communications unless the names and addresses of the writers are given.
We do not undertake responsibility for the opinions expressed by our correspondents.

A Letter From President Townsend

The following interesting notice comes from the office of the President of the P. A. of A., which will be read with interest:

It looks as though there would be something doing in Kansas City that none can afford to miss. The plans for the thirty-third convention of the National Photographers' Association to be held in Kansas City, July 21st to 26th inclusive, are progressing nicely.

The 1913 convention will be one of the best ever held by the P. A. of A. The Executive Board have decided that the leading feature of the coming convention will be a working studio in full operation under talented American photographers. Here is an opportunity for you to see how leading lights of the profession handle their work in all departments in an up to date city studio. We are particularly favored in having at the head of this studio our old and tried friend, Daddy Lively, of the Southern School of Photography. Associated with him in the reception room will be corps of experienced lady receptionists under the supervision of the Woman's Federation and their President, Miss Katherine Jamieson, of Pittsburg, Pa., The names of the receptionists will be announced later.

George Graham Holloway, past president of the P. A. of A. and one of the real live wires of the profession will have entire charge of the operating and retouching departments. He is now making arrangements to supply the very best workmen known to American photography to demonstrate methods of handling subjects. Arrangements have been made to comfortably seat five hundred people in this posing room, making it possible for everyone to see and hear everything that is being done in this room. Artificial light will be used. The negatives taken on this stage will be retouched and backgrounds worked in, and by use of the projecting lantern thrown on the screens, with full instructions as to the medium used, etc. One of the most competent retouchers and ground workers in this country will be secured to do this work. Passing from the studio into the printing department we find past president Frank W. Medlar, of Spencer, Ia., in charge with four printers of national reputation continuously demonstrating the proper methods of printing and masking. A demonstration of air brush, wash drawing and finishing will follow, by the best artists we can procure.

A large convention hall in Kansas City makes it possible to put this feature on at the coming convention for the first time. Never before has such an undertaking been possible owing to limited floor space. Here the large crowds which will visit this studio daily, can be handled with the greatest ease. Preparations have been made for visitors to enter the reception room and retire from the studio from the rear door of the printing department.

No long, tiresome lectures are being planned. Later announcements will probably reveal the fact that there will be but four lectures of the highest type in their particular line. One on business organization, one on advertising, one in the interests of the Commercial Federation and one for the Women's Federation.

The above is a mere outline of the many things that are being prepared to interest the live, wide-awake, up-to-date photographers who attend the Kansas City Convention. The following are usual features which will be better than ever. The exhibit under the management of our efficient First Vice-President Mr. Manley W. Tyree, assisted by Mr. Will Towles, Second Vice President. Vice-President Tyree will also have charge of the Congress and every effort will be made to make it more interesting and profitable than ever before. Special announcement of these features will come from the offices of the first and second vice-presidents.

Entertainment in charge of the splendid local committee at Kansas City. Much has already been said of their plans and much more will be revealed during the coming weeks.

The Women's Federation will provide its usual interesting features under the management of their enterprising efficient corps of officers. Watch for further announcements along this line.

The Commercial Federation, which became a part of the National Association last year in Philadelphia, are preparing to spring something startling. The president and secretary of that federation are now working to secure some talent along this line, which will be of great value to the commercial photographer as well as an uplift to commercial photography all over the country. Just at this time we are

not prepared to announce their plans, but this one feature alone, will well be worth the price of the trip.

Headquarters will be established for every State desiring same and the officers of the various State Associations are requested to write President Townsend to reserve such space.

Banners will be printed for each State. During the convention a free and full discussion will be had on the question of a paid Secretary for the P. A. of A. Come prepared to give your opinion and vote on this proposition and for the best interests of the association.

Are there questions arising in your daily business that you would like to have answered by competent people in any department of the studio? If so, come to the National Convention at Kansas City. Are there questions concerning your methods of handling customers that you would like to talk about with the best receptionists in America? Is there anything you want to know, anything about lenses, background work, wash-drawing, airbrush, masking, printing, retouching apparatus, style of mounting? If so, come to the Kansas City Convention. Lay your plans now. Advertise that your studio will be closed during the Kansas City Convention. That you have gone to get new ideas. Do you want a vacation? One week's recreation? If so, come to the Kansas City Convention. Do you want to see one of the best cities of its size in the United States and some of the leading studios? If so, go to the Kansas City Convention. To avoid the rush send your dues in advance to L. A. Dozer, Treasurer, Bucyrus, Ohio, who will send you a receipt and one of the most beautiful buttons ever issued by the association. In addition to all these attractions there will be the manufacturers and dealers whose displays will eclipse all previous conventions exhibiting in the most artistic booths ever furnished.

Floor plans for these friends will be supplied by our Secretary, Homer T. Harden, of Wichita, Kan.

There is no photographer in America that can afford to miss this, the greatest of all conventions.

(Signed) C. F. TOWNSEND,
President.

THE EDITORS, WILSON'S PHOTOGRAPHIC MAGAZINE:

Referring to your advertisement "Wanted—Co-operation," please be advised that an article dealing with plate development would be valuable to me.

The article should first take a Metol-Pyro developer (or any standard) and show prints from plates made under similar conditions, and at the same time, developed in different combinations, say: ¼ oz. metol and no pyro; then ¼ oz. pyro and no metol; then ¼ oz. metol and ¼ pyro; then ¼ oz. metol and ½ pyro; then ¼ oz. metol and ¾ oz. pyro; going into the proper degree of development, and how to determine, all in tray—then compare tank development; then compare other developers in a similar manner with the best combination of metol and pyro.

Then compare over-exposures, normal, and under-exposures in the developer found to be best.

Then compare outdoor, flashlight, and speed plates in the same developer and then with other developers. This will enable any photographer to determine just what developer suits his needs and why. How to change his developer to suit his particular plate to be developed. How to develope for soft paper, platinum, normal paper, or hard paper, etc., limited only by the exposure given.

This information is sadly needed by the profession. Some use pyro alone for outdoor work, loosing their detail; others use metol entirely, and loose the strength necessary to get strong prints on Artura, and so it goes.

My experiments have been wonderfully enlightening along these lines and a carefully tested series would be very valuable. We use 20 oz. water, 15 grs. oxalic acid, ¼ oz. metol, ½ oz. pyro in stock A, 3 oz. sulphite of soda, 2 oz. carbonate of soda in 20 oz. of water stock B. 6 oz. water—1 A-1 B to use—and modify water to suit conditions and exposures for studio work. Metol 120 oz. hydroquinone 120 oz., 64 oz. of water, 2 oz. sulphite, 2 carbonate, for outdoor pictures made under harsh conditions and gradations between. These formulas I have never seen in print. We worked them out by the method we are asking you to publish.

Yours very truly,
JOSEPH E. TUTTLE.

A FRIENDLY GREETING FROM W. J. SCANDLIN

Mr. Thomas Coke Watkins,
Wilson's Photographic Magazine,
122 East 25th St.,
City.

My Dear Mr. Watkins:

I have your valued and very interesting communication of March 24th and note with surprise the change which you advise. I earnestly wish that it were in my power to be of service to you in the development of the magazine along the lines you suggest but fear that through my long absence from the sighted field, my contributions on photographic lines would have little value. A man in the dark sees a good many things that are not obvious in the light of day, but somehow they can not be perpetuated through a photographic lense.

I shall be delighted to meet you again and if in the future I may be of any use in suggestion or otherwise, I pray you to call on me without hesitation. My interest in the field of photography is still as deep as ever, for in my own experience there I met and knew and loved a great many men and women

whose efforts have helped to make photography better understood and more highly appreciated than without them would have been possible. I like to feel that I have had a hand in the matter myself, though a very small one, and would gladly send a greeting to every photographer in the country with whom, in the past, I have had acquaintance.

My time is fully occupied at the New York Association for the Blind, where we are now holding an exhibit of pictures prepared by many of the leading artists of this City and elsewhere, as travesties on the recent work of the Futurists. The exhibit is creating a great deal of interest and I feel sure that you would hugely enjoy it.

With personal regards, I am,

Very truly yours,

W. J. SCANDLIN.

EDITORS, WILSON'S PHOTOGRAPHIC MAGAZINE:

With great interest I read your articles on flashlight work. Under separate cover I send you a photo of Home Life, part of my family, made with flash and little daylight in the room.

I think mistakes are made too often in flashlight and other groups in making the subjects looking to the camera in a group. It spoils the whole picture, even by one facing the camera, Seventy-five per cent. of men will make better portraits in having the left side of face towards the camera; it helps to straighten the crooked face, since the left side of face bulges out. My theory is, through sleeping nearly the whole night on the right side of face the latter grows that way out of shape. Those crooked faces look fearful in enlargements.

Fifty-six years behind the camera, started here in 1856 making daguerreotypes (the best sun pictures ever made). I am 78 years now, active as ever. Subscriber of your journal before attending the Boston Convention in 1869.

Yours truly,

R. GOEBEL.

A STORY WITH A MORAL

EDITOR, WILSON'S PHOTOGRAPHIC MAGAZINE:

ONCE, when I was a younger photographer than I am now, the Armour Packing Company sent for me to make a picture of a most striking yellow warehouse they had just completed in our town. It had "Armour Packing Company" painted on the front in large black letters; in fact, it was so prominent that you were aware of the sign before you were conscious it was a brand new building. I filled my plateholders and went to make the exposure at the time the light condition were best. I did everything most carefully, for in those days I was young enough to think that my reputation and the happiness of the public depended on each job turning out good. I made the exposure under ideal weather conditions, and, as I journeyed back to the studio I spent the money several times that I expected to collect from this job. Joyfully I started to develop the plates, quite certain they were good. I mixed fresh chemicals, I tested the temperature of the water; in short, I did all those things we are told we ought to do to get perfect results.

Some one has aptly said we live in proportion to the sensations we experience; judged from this standpoint, I cannot tell just how long I lived in the short time it took me to develop that plate, but never before or since have I been subject to the varied play of emotions that swept through my being in these few minutes. The building came up beautifully, most beautifully, but never a sign was on it. When I looked at it and realized that the very thing I was sent to photograph, the sign, Armour Packing Company, was not there, not even a ghost of it, a sort of mental sea-sickness settled on me and I was dizzy and faint with bewilderment and disappointment, for I did not know why I had failed. Failed, I certainly had, that was evident enough. I was too inexperienced then to know that if I laid my troubles before a demonstrator he would do his best to enlighten me.

Of course, the manager of the Armour warehouse was impatient for the pictures, and so I tied them up and sent them up by a special messenger, who reported that when he opened them he remarked "damn." Needless to say the money for this job was only spent in fancy, as I never had the nerve to send a bill in.

Again I had a call to copy some oil paintings, which I did to the very best of my ability with only the outcome of muddy, sloppy prints. I had grown some by this time and did not try to deliver, but told my customer very frankly they were worthless. As time went on my work on general lines improved, and attracted attention in my berg, and the people who had these paintings came back and asked me to try again, saying that my work had improved so much they felt certain I could do them satisfactorily; I had no such feeling myself, but I tried again with similar results. I was in despair for I did not know how to get the tone values that were essential to a good reproduction. Just about this time a plate demonstrator came in and I told him my troubles. He made a demonstration on a color plate with a ray-filter. The result was marvelous. Not only was all the color value there, but beauties that were lost in a casual glance at the original. Just what are the possibilities of these color plates, when used in connection with the ray-filters that are made to be used with them would be hard to over-estimate.

The moral of this little story is: Use the material that is made for the work in hand and tell your troubles to the demonstrators.

BAYARD WOOTTEN.

REPORTS OF SOCIETIES

THE PHOTOGRAPHIC CLUB OF BALTIMORE held its annual election on April 1, the following officers were chosen to serve one year: President, Mr. Lloyd D. Norris; Vice-President, Mr. George H. Rowe; Treasurer, Mr. J. A. O. Tucker; Secretary, Mr. N. Wright Crowder.

The club has now entered upon what promises to be one of the most satisfying years of its existence. An active interest is being taken in all lines of photographic endeavor.

The annual exhibition will be held from May 6 to June 1, inclusive, and a large number of entries is expected.

THE PROFESSIONAL PHOTOGRAPHERS' ASSOCIATION OF BINGHAMTON and vicinity met April 1st in the studio of Miss May Smith. The next meeting will be held on Tuesday, April 29th, at the studio of T. V. Rogers. The following officers were elected: President, A. F. Newing; vice-president, T. V. Rogers, secretary, G. H. Moody; treasurer, Miss May Smith.

THE SOUTHERN TIER PROFESSIONAL PHOTOGRAPHERS' ASSOCIATION OF NEW YORK STATE met in Elmira, N. Y., April 9th at the Varney Studio.

A feature of the meeting was the display of pictures from the State society and the demonstrations given by J. C. Smith, a representative of the Eastman Kodak Company.

Those who attended the meeting were: Photographers Sutton and Taylor, of Hornell; Stebbins, of Canisteo; DeGroat, of Bath; June, of Addison; Benner, of Hammondsport; Kimball and Hewitt, of Corning; Hees, of Avoca; Mrs. Freeman, of Savona; Millspaugh, Personius, Howes, Loomis and McFarlin, of Elmira.

ELABORATE plans are being laid for the Eighteenth Annual Convention of the Indiana Association of Photographers. The convention is to be held July 7th, 8th, 9th and 10th, at the Daguerre Memorial Institute, Winona Lake, Ind. The officers are: President, Edward F. Perrey, Fort Wayne; first vice-president, R. E. Smith, Attica; second vice-president, S. A. Hockett, Fairmount; treasurer, C. A. Shubart, Princeton; secretary, Otto Sellers, Muncie.

THE annual meeting of Buffalo Section No. 6, Professional Photographers' Society of New York, took place April 2nd at the studio of J. George Nussbaumer. These officers were elected for the year: J. George Nussbaumer, chairman; Frederick Pohle, secretary-treasurer; executive committee, C. A. Hubert, 1916; Charles Peck, 1915; Edward Seiffert, 1914; State executive committee; Charles Zimmerman, Thomas Smith, F. J. Sipprell and Harry Bliss.

Arrangements for a section print interchange were made and a portrait exhibition of unusual merit will be the result. The meeting of May 9th, at Mr. Beach's studio, included the ladies and a musical and intellectual program was provided.

COLORING photographs by hand has always been a tedious job, and in many cases a difficult one, especially when large surfaces require a uniform coloring. A few experiments with the Assur process enable practically any person to produce passable colored effects, and excellent work can be done with a little practice. An outfit consists of a box with six or twelve tubes, and a large tube of "Malmittel," the coloring medium. A small quantity of this medium is mixed on a small sheet of cardboard with the desired cardboard. The mixture is then rubbed with a circular motion over the parts it is desired to color, no particular attention being paid to the outlines. A clean cloth dipped in turpentine and wrapped around the finger is the simplest method of distributing the color. A clean cloth dipped in turpentine or a piece of rubber will easily remove any color that has overrun the outline. No brush is needed at any time, small stomps of blotting paper being used. These accompany the outfit. Owing to the rapid evaporation of the turpentine, the work dries almost immediately.

Any kind of effect can be produced, and the finish is under perfect control, dull or glossy as you wish. Nearly all photographic papers can be used, and owing to the simplicity of the process, mistakes can be easily rectified until a desired effect is obtained. After 48 hours, however, it is impossible to make any further change, and the colors become permanent. Schering & Glatz, 150 Maiden Lane, New York City, will be glad to give further particulars upon request.

POINTERS ON DEVELOPERS

"Don't never prophesy onless you know!" — *Lowell.*

THE perfection of photographic chemicals, and their careful selection for the various manipulations, assures the worker that all guess work has been overcome and the readiness of the manufacturers to supply all data bearing on various processes, should convince the amateur that it is to his or her advantage to take up this most interesting recreation.

Amateur *Portrait* Photography will aid one to learn one of life's greatest lessons, *the knowledge of human nature,* which can best be acquired by personal contact with various individuals, and their true selves observed.

To encourage a spirit of desire to seek the greatest interest in photography and to assist those who wish to broaden their field of knowledge in photography the Berlin Aniline Works have issued an interesting booklet for this purpose. Send for a copy to 213 Water St., N. Y. City.

THE Eastman Portrait Lens gives you a reasonable priced objective that will take care of your portrait work under most trying conditions of poor studio illumination. With this lens in your studio you will have no trouble in securing the most pleasing and artistic portraits, possessing perfect perspective. When diffusion is desired, the simple back adjustment permits you to obtain any amount of depth and atmospheric effect. Refer to page 20 in this issue for particulars.

WE have received a copy of *Cash and the Camera,* by Mr. A. S. Dudley, of the editorial staff of the *Bulletin of Photography,* Philadelphia, and we find this little book a veritable *Multum in Parvo* of the most practical and useful information for the photographer. It is full to the brim of pithy pointers on how to make the camera pay, and on handling and selling of prints. It is concise and to the point, and we know of no more useful hand-book for any man who is seeking to increase the earning power of his business.

The price of the book is only $1.00 and is well worth every cent of it, and will be sent post paid on receipt of that amount, by addressing Mr. A. S. Dudley, Publisher, Box 775, Philadelphia, Pa.

G. GENNERT takes pleasure in announcing the opening of a branch office at 682-684 Mission St., San Francisco, Cal. This gives the professional photographer the opportunity in every point of the country of being in close touch with these purchasing bases. There will be a full stock of photographic supplies carried in this branch.

The photographer very often has difficulty in securing his proper tone of values in his first few pictures of spring. The foliage at its best—the new budding leaves, tinted with the beautiful shades of green, which is impossible to reproduce on the ordinary photographic plate. The old way is to utilize the orthochrome plate and a ray-filter. This requires at least 6 to 8 times normal exposure. It is very often impractical to make exposures of this length. The Imperial N. F. Plate cannot be too highly recommended for this work. It does not require the ray-filter. With it you secure the full color values. If you will communicate with G. Gennert, New York, Chicago or San Francisco, they will take pleasure in sending you full information and samples of this plate, upon request.

DON'T be persuaded into using cheap photographic papers. It does not pay. But if you cannot meet competition on the strength of the quality of your work, write the Ansco Company for suggestions that may lead to improvement. The best paper is Cyko, and there is only one "next best"—Noko, which costs no more than the cheap papers now on the market.

The envelope folder enclosed with this issue gives full information, including prices, of Noko. It will be found by comparison with the price lists of the so-called cheap papers which are dear at any price, that Noko—the next best paper to Cyko, costs no more.

A NEW YORK office of the Victor Animatograph company of Davenport, Iowa, has been opened in room 4028, Metropolitan building. The office will be in charge of Fred B. Schell, representative of the company. The opening of this New York office is due to a rapid increase in both the domestic and export business. No stock will be carried in the New York office and all prices will be made as heretofore, F. O. B., Davenport, Iowa.

THE wonderful achievement made by the Research Department of the Paget Prize Plate Co. in the discovery of the properties of Hydrazene and its derivatives, has advanced the possibilities of photography to a point hitherto unattainable. The peculiar property of the photographic emulsion which has been produced as a result of this discovery is the fact that it cannot be over-exposed and reversal of the image is impossible even in the case of abnormally long exposure.

When one stops to think of this notable scientific achievement in being able to place before the photographic public a plate that is immune to over-exposure, one will begin to realize the power which the photographer now has in hand for all classes of work which he may be called upon to execute.

Ordinary plates have limited the photographer to subjects where the range of contrasts has not been too great. This difficulty has been overcome by the "Hydra" plate, because the photographer may now give ample exposure for the shadows and still retain the finest gradations of tone in the highlights. Owing to the limited latitude of the ordinary plate, this would result in extreme over-exposure for everything but the deepest shadows and a resulting flat and unsatisfactory negative. For architectural work, interiors, landscapes, sea views with strong sunlight reflections, Alpine photography with sun capped mountains and dark foregrounds, exposures against the light; in fact, any subjects with severe contrasts may be photographed with the "Hydra" plate, whose superiority is indisputable.

Special literature describing these sent on application, Herbert & Huesgen Co., 456 Fourth Avenue, New York City.

IT is far more important to have your print stick to its support, than that you should be stuck on the print. You will not be stuck, though the print will stick, if you use Day's White Paste for mounting.

THE EASTMAN COMPANY, with their accustomed liberality, have opened their annual contest for 1913 with $3,000 in prizes for prints made with the Kodak plates and films, to be used for their advertising. Full particulars may be had from all dealers, or directly from Rochester.

ROSS "TELECENTRIC" LENS. This new lens, specially suitable for sporting events, life in motion, enlarged images from distant objects, is in great demand by newspaper photographers and outdoor photographers who require life in motion pictures with large images from a distance. It is also adapted for portraiture, saving the photographer considerable work in retouching. Write to the American agents, George Murphy, Inc., New York, for descriptive booklet and sample photos.

CENTRAL DRY PLATES are found in studios of the most exacting professional photographers. They possess quality—the makers guarantee this—and they are reasonable in price. Have you tried them? Better ask your dealer for a dozen, and prove to your own satisfaction that they will fill your requirements. If not convenient to get "Central" locally, send direct to the factorv—Central Dry Plate Company, St. Louis, Mo.

J. L. LEWIS of New York has recently taken the agency for Yto paper, which is a development paper giving, with simple development, tones from black to red chalk. We tried the samples and found that when using Tabloid Rytol, one of each to 15 ounces of water, it was easy to get a large variety of warm tones by increasing the exposure. Amateurs and professionals in search of novelty in the way of color should investigate Yto paper without delay.

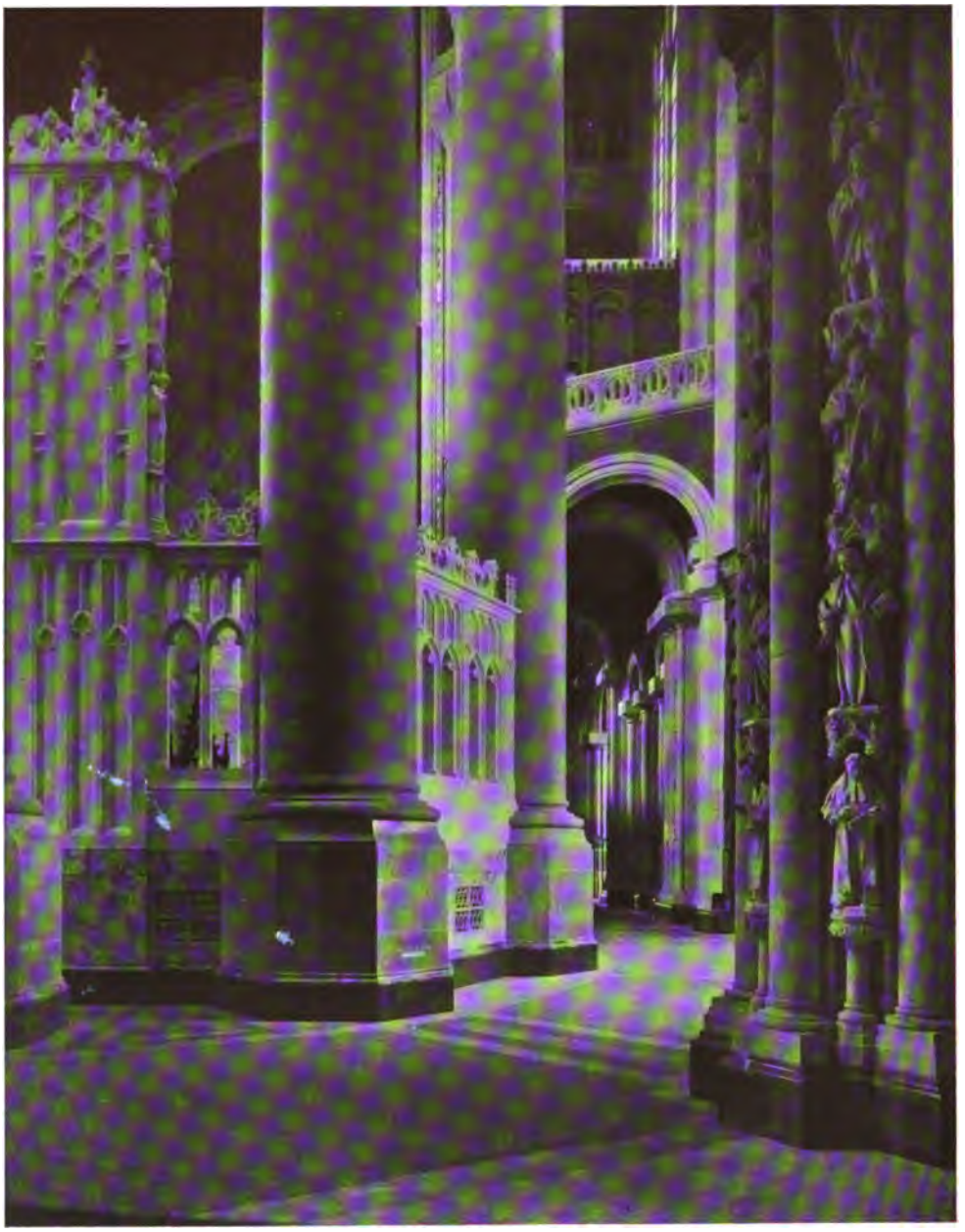
THE Seneca Filmett Cameras are more compact than formerly, and cannot fail to commend themselves generally to the photographic public. This particular style of Seneca is designed entirely for using film packs and, of course, is extremely simple to load and operate.

The most marked advance in the Seneca line is the new Senco Folding Pocket Camera. The Senco is made in all standard sizes, and is an unusually compact camera, of wide capabilities. The Senco first made its appearance last year and was greeted with most cordial recognition. The new models for this season show distinct advancement, and appear to bear out the claim that at last the perfect pocket roll film camera has appeared. The camera loads very easily, is "all in one piece" and is very quickly manipulated.

A journey through the pages of the handsome Seneca catalog for 1913, shows many distinctive improvements in the great line of standard Senecas, which it is impossible to touch upon here.

THE name of the Koehler Optical Company is already well established, numbering among its patrons many of the leading photographers of the country, and to all who are interested in photography we present our illustrated catalogue, and take this occasion to thank you for past favors and respectfully solicit a continuance of same.

The aim of the Koehler Optical Company is to make and supply high-grade photographic lenses, ray filters and various other optical instruments for photographic use, at a price as low as is consistent with good quality. The same efficiency and high-grade quality which has made our goods famous will be found in all articles of our manufacture. Send for their new catalogue, 7 East 14th St., N. Y. City.



AMBULATORY—CATHEDRAL OF ST. JOHN THE DIVINE

BY FRANCES B. JOHNSTON—MATTIE E. HEWITT

ZEISS CONVERTIBLE LENS F 64
TEN MINUTE EXPOSURE
STANDARD ORTHONON PLATE

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. L JUNE, 1913 No. 6

PROFITABLE SIDE-LINES FOR THE PROFESSIONAL PHOTOGRAPHER

I. AT HOME PORTRAITURE

BY A. E. SWOYER

THE average person dreads the photographer almost as much as he does the dentist—that is, he dislikes the fuss and "look pleasant, please" of the studio. On the other hand, Mr. Average Man has a large bump of vanity and would delight in having his picture taken every day in the week if it could be managed without formality and if he could sit clothed in his everyday apparel amid familiar surroundings.

Naturally, it is this desire of his clients upon which the prosperity of the photographer depends, and the wise man will therefore foster it. So great is this tendency that many practitioners have abandoned studio work entirely in order to follow at-home portraiture, but this is not by any means necessary. Enough people still care for the formal portraits, the painted back-grounds, the starched collar and the conventional poses to keep a studio running, but—and here is the point upon which hang many dollars—the public taste is being educated to appreciate the naturalness and charm of at-home pictures, and it does not pay to entirely disregard this source of revenue.

The solution is very simple; run the studio according to fixed office hours, as is the practice of the physician, and devote a portion of the remaining time to this outside business—such sittings will not be made without a definite appointment and but little time will be wasted. The field is still virgin and little or no competition need be feared; any day may develop a rival, however, so that it behooves the ambitious worker to take time by the forelock and not postpone his start once it is determined upon.

The equipment necessary for at-home

portrait work is of the simplest; a five by seven view camera with a lens of moderately long focus is eminently suitable. Naturally, a fast lens is an advantage in this as in other work, but a high grade anastigmat need not be purchased until it is determined whether or no the prospects of business warrant it. The backgrounds necessary are those furnished by the walls themselves; should reflectors or diffusers prove necessary, the linen closet will supply them. In general, the less accessories used the more natural and artistic will be the results; if you carry nothing but the camera and your brains to the scene of action you will be more successful than if your outfit has to be delivered in a van.

Often, of course, a flash serves as an auxiliary lighting to soften contrasts and to break up large masses of shadow; for this a package of flash sheets or a hand pistol will be adequate—the use of this accessory should be indulged in, however, only when you are positively sure that it will prove a benefit, which will be in about one case out of fifty.

As for the brains mentioned—well, you must be absolutely familiar with your instrument and with its possibilities, and be ready to meet conditions as they come. You will not have a skylight and drops to soften tones and reproduce results that you have obtained a hundred times before; every exposure will produce a new problem, and you must secure results by rapid-fire solutions or not at all. In some respects this gives the advanced amateur who starts in home portrait work an advantage over the studio trained professional, for the former is accustomed to working under constantly changing conditions of light and has become an expert judge of its actinic qualities, whereas the skylight man, be he ever so skilful in his familiar domain, is more or less at sea when removed therefrom. This difficulty is one which practice will overcome, while in posing, composition and after-manipulation of the negative the advantage is all with the professional.

Getting the business is not often a serious matter, although the methods to be followed must be adjusted to local conditions and to the class of clients sought. It must be borne in mind that the individuals who appreciate the advantages of portrait work in the home are those best able to pay for it; they are, frankly, apt to be higher in the social scale than the average of studio sitters and great care must be used not to transgress the canons of good taste in approaching them.

Flamboyant advertising must be avoided as a pest; since the photographer seeks admission to cultured homes and thus must enter to a certain degree into the confidence and intimate life of his subjects, he must first of all prove himself a gentleman worthy of such intimacy, or he will have but little opportunity to display his technical skill. A good plan by means of which the cream of such business may be skimmed is through the personal note; this may be an engraved form stating simply that you are prepared to make portraits in the home, thus avoiding the annoyance of studio visits, or, if you feel that the expense of this will not be repaid, a note in script or even typewritten will serve the purpose. This should be sealed in a plain envelope and addressed to a lady of the household, if possible; don't be afraid to spend two cents postage on it, for the unsealed missive is so patently an advertisement that it often reaches the waste-basket unread.

Should this not produce results within a reasonable time, do not use any form of follow-up letter; call personally and explain the advantages that the home sitting offers. It is a good plan to carry with you some special portraits of your family or intimate friends as samples of your at-home work, but, frankly, your product will not be under appraisal so much as will your own personality. Your prospective client will be studying you closely and upon his opinion will depend your opportunity; nor should your mind be inactive during the interview, for you will be able to catch your subject off guard and obtain little glimpses of his real self which will en-

able you to secure a natural likeness when the occasion for exposure comes.

In making your appointment for a sitting, it is well to allow ample time, for once in the home with your camera opportunities for additional work are almost sure to present themselves; these may not bring a high price in themselves, but are almost entirely clear profit. Thus the baby, the family pets and an interior view or so may come in for your attention; with your equipment you will be able to handle anything of the kind that comes your way and thus add dollars to the amount of the original order.

Easy as it often is to obtain trade of this kind, it is as easily lost by discourtesy or by bungling. Thus, while a satisfied client may be the means of introducing you among a circle whose members will fill your time with highly profitable sittings, the news of a boorish action will spread even more rapidly and may be a serious blow to your business. Since your chief advertising will thus be by word of mouth, the exhibition of your at-home portraits in show case or in window display is not only unnecessary but in bad taste as well. Bear in mind that in a large measure your client is patronizing you in order to avoid the publicity of the studio; do not spoil the effect by exposing his image to public gaze.

This rule may be varied in the case of a public character, but in general it is far safer never to exhibit the results of any sittings except by the express permission of your client—and be exceedingly chary of asking such permission, except in the case above noted or where you are absolutely certain that no offense will be given thereby. For the best results, carry your practice a step farther and never show portraits of your clients even when calling personally upon prospects; you may state that you have done work for so-and-so, and you will find it mighty good advertising to say that you would show the results except that you have made it a rule not to do so with any portrait made in the home.

Prices are governed largely by local conditions, but may be easily fixed by comparison with the studio charges in the same town. For corresponding styles, sizes and finishes the charge for at-home portraiture should be the studio price plus the actual cost of the additional time spent; as this may involve some calculation and a variable charge which will lead to misunderstanding when various clients come to compare notes, it is perhaps safer to make it, say, one and one-half times the studio price. There will be little demurrage at this when you explain that you are following the practice of the physician who increases his figure for house calls and that payment is really being made for the additional convenience secured at the expense of your time. While it is a mistake to try to secure a higher price from a wealthy patron than from his more humble brethren, it is perfectly legitimate to interest such a one in the more artistic finishes, as platinum or carbon, and secure ones reward in that manner.

Whatever method of handling the subject you adopt, at-home portraiture has come to stay and you should take advantage of the opportunity while it is still young.

HOW ABOUT THE HOLIDAY TIME

ALTHOUGH convention times are here, and photographers are, or should be, combining a good time with business advancement, it is not of these holidays which I would speak; but rather of the times when the world outside the studio makes holiday and the photographer is reaping the dollars. Holiday time with the public should spell busy time with the photographer, a time for making

money. A holiday trade, properly looked after has practically no possibilities of loss. It is more a question whether the prize will be a small or a big one. Whatever may be the case of photography at other seasons of the year, at holiday times it comes fairly under the head of *luxuries*. The man who pushes his business then is not even competing with his fellow photographer; he is bringing money into the fraternity which otherwise would have gone elsewhere. If a person can be persuaded to give a beautiful portrait of herself as a Christmas gift she is merely spending on photography what would otherwise have gone elsewhere. If the summer visitor at the seaside takes a dozen portraits home with him—well he had so much money to spend, and if it had not gone one way it would have gone another. The period of the year which can be termed "holiday" varies in different places. Christmas is an almost universal holiday, one which should be prepared for beforehand; the Fourth of July may be looked on as a holiday trade possibility in some small country cities, a day of rush, on which to make as many exposures as possible. There are the local dates of schools and colleges, which are so obviously important that they are seldom overlooked. There are local festival days or weeks in many States; there are holiday resorts in the mountains or on the lakes. The photographers in spots which are inhabited by crowds of holiday makers for a few months only in each year seldom need reminding of the importance of business. Usually they open studios in such places for the holiday season only, and for the time being that trade is the beginning and end of their existence. They are there for the purpose, and look on the visitors as their lawful game. The man who is apt to miss a holiday possibility is the man who swings his shingle from the one door all the year round. With him there is the possibility of thinking the game not worth candle, for there are still a number of photographers with a touch of pessimism in their nature. Or he may let the opportunity pass through sheer not getting down to take advantage of it.

Why not approach the holiday season with an outbreak of enterprise? Instead of waiting for the trade to come along, go after it, and make it come. The only trouble about waiting for it is that very often it passes the door altogether. Have something new, and something *good* if possible. The "self-made man" who has been writing a series of letters in the *Saturday Evening Post* fairly hits the weak point of old methods: "I don't care how good old methods are, new ones are better, even if they are only just as good. That's not so Irish as it sounds. Doing the same thing in the same way year after year is like eating a quail a day for thirty days. Along toward the middle of the month a fellow begins to long for a broiled crow or a slice of cold dog." This about hits the monotony of non-progressive methods. There is nothing worse than wheeling for a long day along a straight, level road, through a dull country. The wheelman begins to think that a vicious dog, or a burst tire would be a pleasant excitement.

In trying to draw attention to a studio's possibilities a number of writers—and a number of successful photographers who have tried it—advocate newspaper advertising. It may be good, but the man who tackles it should understand something about it; or, at the very least, he should carefully sit down and first count the cost. But, however, it is done, whether by advertisement, or circular, or personal call, it should be done with as much *style* as possible, and carry some offer or suggestion likely at least to attract favorable attention. It would seem to be a common mistake to offer some special cash terms, to tempt people by the low price. Better to tempt by exceptional value in quality than in price. One of the most successful revivals at present is one in London, where a very high-priced—as photographs are priced—pastel is being offered. In this the head is delicately colored, with all the detail of blue or brown eyes; the mass of carefully finished rich hair; the sug-

gestion of jewels at the throat or in the hair. The dress is more in the nature of a faint sketch—a good instance of subordination of detail.

The whole interest centres in the face, or face and hands, and in the position which they occupy on the area of paper. The pastel is quite possible as a high-class novelty in the right hands. A good enlargement is a very acceptable present, but its limitations prevent its being an ideal leading line. There are novelties innumerable for a medium grade of trade, but in a holiday effort the attempt should be, where possible, toward the best. Too little seems to be done in the way of varieties. Of course there is always a risk, as in the case of the man who did a number of platinotypes at a time when "flesh tints" were being obtained by local toning. He spent much time in making a number of these beautiful tinted pictures, and his customer simply "didn't like them." But the essence of using a novelty on an advertising basis is to attract to the studio, not to spring upon a customer after she is obtained. There are many colors possible in carbon; even the man who buys his tissue ready sensitized has choice, and he can buy in small quantities; an offer of half a dozen carbons in six different, "delicate, beautiful, and undoubtedly permanent" colors, should prove a good line. Variety is one of the surest drawing cards in photography. Give the prospective customer an idea of something special and above the ordinary to meet the special occasion. There are such things as sepia platinums, and with a little care and thought a sufficient change can be rung —in more ways than one—to give an appearance of distinctiveness to each one of a dozen prints.

There is no longer any excuse for old-time methods. Whether modern work is better than old or not, the method of presenting it to the customer should advance with the times. There is much good in the old, but if revolution is bad, at least evolution is necessary and vital to healthy progress. The photographer's trouble too often has been that his holidays have come too frequently and unasked. Some unfortunates gaze from their doors and ruefully think that they have been cursed with perennial leisure. A hunting after business in the holiday times of other people (and also in all quiet times) is one way toward ensuring to the photographer the ability to take a legitimate holiday and to look forward to it with pleasure.

LANTERN SLIDE TONING

BY SAMUEL WEIN

BLACK is, as we know, the standard color for a lantern slide, and it sometimes occurs to the photographer that the pictorial qualities of his slide could be greatly enhanced if it were "toned." We shall therefore describe those methods of toning as applied to chloride lantern slides.

Where several slides are to be toned, and the time is not an object, the easiest way to obtain red tones is by slight over-exposure and a very weak developer of hydro-quinone and caustic soda. A good developer for dilution in this way is the following:

A—Hydroquinone	15 gr.
Potassium metol sulphate	15 gr.
Potassium bromide	3 gr.
Water	4 ounces
B—Caustic soda	20 gr.
Water	4 ounces

A ten per cent. bromide solution is also necessary, as it is desirable to vary

the quantity of restrainer to produce the differences of tone. The exposure should be given to daylight, the time may vary from twice to twenty times the normal, add more bromide to the developer as the exposure is increased. For example, fifty seconds exposure is given to a plate under a medium negative to diffused daylight. Mix one ounce of A and B, and ten ounces of water and a few drops of bromide solution is added. It will take about 20 minutes for the development (with a very weak gas-light).

The length of time is sometimes of great importance and we must make use of a quicker method. Various manufacturers suggest the use of a developer containing edinol, with a quantity of bi-sulphate, and a very small amount of alkali. In practice it has been found the developer below to be of more general utility:

Edinol	15 gr.
Acetone sulphite	75 gr.
Ammonium carbonate	15 gr.
Ammonia (.880)	15 minims

The amount of ammonia must be varied according to the tone desired, as this regulates the speed of development, and the speed in turn regulates the tone of the image.

For developing over-exposed plates to a warm red or yellow color, the following iron formula will be found to be an excellent one:

A—Citric acid	20 parts
Ammonium carbonate	10 parts
Water	30 parts
B—Ferrous sulphate	5 parts
Sulphuric acid	5 parts
Water	18 parts
C—Common salt	18 parts
Water	100 parts

With regards to the exposure, no definite instructions can be given. However, the amount of over-exposure necessary to give the desired color can be had by an experiment or two. Mix three parts of A with one part of B, and a drop or two of C is added.

A beautiful deep blue and violet colors can be had by toning a red or warm black slide, after it has been fixed and thoroughly washed, in the following solution:

Ammonium sulpho-cyanide	30 gr.
Water	10 oz.
Gold chloride	2 gr.

A short washing after being toned is sufficient to make the slides permanent.

Pizzighelli recommends the following iron formula for chloride plates:

A—Citric acid	30 parts
Water	70 parts
Ammonia (.880)	15 parts
(Filter above solution.)	
B—Ferrous sulphate	10 parts
Water	30 parts
C—Salt	1 part
Water	30 parts

For rich red tones use 15 parts of A, 5 parts of B and 1 part of C.

The following formulas are found to be excellent:

A—Uranium nitrate	30 gr.
Potassium ferricyanide	25 gr.
Acitic acid	5 drops
Water	6 oz.

The uranium is first dissolved, and the other chemicals are then added; shake well from time to time, keep for a week, and filter. This filtered solution will keep indefinitely in the dark, or in a deep orange colored bottle.

B—Ferric chloride	15 gr.
Water	3½ oz.

A gives red tones, according to the length of time immersed. When of the desired color, the slide is then placed in a 2 per cent. solution of ammonium sulpho-cyanide until all of the white is clear, and then well washed.

A green tone can be obtained by immersing the plate in B for a few moments. Longer immersion produces a green-black tone, and finally a blue tone. If a bright blue color be desired, it is necessary to rinse a slide when toned with B after A in a very diluted nitric acid.

It must be remembered when making green or blue slides by using the B solution after treatment with A, that in drying, the color becomes much "bluer," hence for a greenish-blue tone we must wash and dry the plate some time before it has reached the particular shade we desire to have in the finished picture.

Some photographers prefer to bleach their lantern slides, this may be done in the following solution:

Water	4 ounces
Mercury chloride	1 dram
Hydrochloric acid	15 minims

After the plate has been sufficiently washed, the bleached side is exposed to daylight for a few minutes, and is then placed in a ten per cent. hypo bath, the image will then reappear in a yellowish-brown color.

Another bath for bleaching the slides previous to daylight exposure is the following:

Water	4 oz.
Salt	45 gr.
Copper chloride	15 gr.

The image is then bleached and well washed. It is then exposed to daylight. This produces a bluish-violet picture.

WHY ADVERTISE?

FELLOW photographer do you want more business? Want to be more than a plodder? Want to get out of a rut? Want a good thriving trade that will require your spare energy and extra help to handle? Then do some sensible advertising through your newspapers. Printer's ink is the power that moves all business these days of keen competition, and photography as a money-making business will get a new lease of life if treated with printer's ink in liberal doses!

Newspaper advertising for photographers is almost a totally neglected field. First, because the majority of photographers are brought up to believe they must "never stoop to common, commercial advertising to push trade." Second, because ninety-nine out of a hundred can't write the right kind of ads that bring business. Something fancy, fussy or feverish is generally the product of their pains. Not that their efforts are not sincere, but it takes study, training and ability along this peculiar line to write successful, business-bringing ads.

A little jolly froth dashed off wont do. Sounds smart to the office, perhaps, but lacks the seasoning of solid sense—the pulling power to any ad.

Don't think that because old liners and timers have always cried, "Don't use printer's ink. It's contrary to art and lowers the tone of the profession." Nonsense! Boys, wake up! There's rafts of business all around you, and can be brought your way with proper advertising.

For years stock dealers have proclaimed from the "house-top"—"you must get such and such a camera; so-and-so's lens; this and that background, etc., if you would do business." All good advice as far as it goes. Certainly, get the best tools to be had. Make good work, learn how or hire some one who can, and then—advertise!

It is estimated by expert authority that twice the trade in photography can be secured by proper newspaper and booklet advertising.

Why not? Is photography so radically different from other business that it needs no publicity?

Don't you know that even dentists are driving in volumes of business with bright, newsy ads changed often, which a short time ago was considered a sacrilege to their profession.

It is said to have started like this: A certain young dentist, with skill and a few patients, considered his patience exhausted in trying to build up a clientage the old word-of-mouth way. Against the advice of his friends he "advertised" in the newspapers. Not in a frantic, desperate, rate-cutting, red-fire style, but in a dignified, courteous, sound-sense manner, changing his ads at every issue. His ads immediately attracted attention

because they were well displayed, attractive, neat and newsy. He employed an able ad writer, wisely deciding that his own forte was teeth, not writing ads. People couldn't help but read them, they sounded so different from anything else. Then they began to find out a great many interesting things about teeth and their care, treatment, prices, etc. And the men and women who scanned the paper couldn't help but think of their teeth.

That dentist prospered. He not only became known as a fine workman, agreeable and honest, but was acknowledged authority on dentistry, simply because he had something to say and kept on saying it in a nice newsy manner. His departure from the old, beaten track created a desire for more dentistry. People who never gave a thought to their own or their children's teeth became regular customers. His trade flourished, as much from an increased demand for dental work as from capturing the cream of the old trade. Hundreds of dentists are now doing just this kind of advertising, regular newspaper publicity.

Now, its granted you are up to date in cameras, lenses, backgrounds, etc.; that you have fresh, attractive prints. That your cases are changed often and your help competent and courteous. From such you are sure to attract a certain share of trade. But mark how many more pictures will be made and shown, your name on every tongue and your studio a household word, if you advertise!

Do you suppose for a moment the respectable dry goods concerns, hardware men, druggists, etc., sit still and depend just on the customers that drift in, simply attracted by a pretty window display and occasional praise from their customers? Not any! They are moving every faculty to develop fresh, newsy advertising. They know their business thoroughly. Know they won't have much business—a mere existence—if they don't spread printer's ink!

Every one knows the success of Wanamaker, Siegel Cooper, Marshall Field, and hundreds of others is due to advertising. Now, is photography so utterly removed from all other vocations as not to need the potency of publicity? Emphatically no! Why, even churches advertise.

Haven't you observed how human nature, especially in America, wants to be told all about an article before purchasing? The world wants to be told over and over, again and again, but in some new way, the merits of methods and merchandise (photographs are merchandise made to order; that's all).

The idea of getting all you can of the best you can for the least money you can is indelibly stamped on our minds; superior quality attracting some, low prices others.

Talk quality first, price next. Make the best photographs in your town then talk about them in your advertising. Not in a conceited tone, bristling with braggadocio, but sensible, modest praise about points which a prospective customer would believe and become interested in. Note the difference in the following style:

We are well aware that Wanamaker keeps everything in dress-goods, clothing, etc., but we are much more interested in his wares to read about them day in, day out. After a while we talk Wanamaker, deal with Wanamaker, and swear by Wanamaker, just because he has interested us by his newsy advertising. When we go there for some particular article, nine times out of ten we buy something else. This is the accumulative power of advertising, and John Wanamaker knows it. That is why he pays $15,000 salary to the man who thinks out his ads and puts the pulling power into them. It is not necessary, however, for a photographer to spend thousands or even hundreds to have some one write his ads. Able service can be secured for a very little per week, bringing it well within the means of any live studio.

If you make the best photographs in your town and advertise them right, you will be the acknowledged Wanamaker of photography of your place, holding

the highest prestige and making money.

Has it occurred to you how the constantly changing styles in mounts is a powerful lever to move more trade? Of course, you buy liberally of new goods as fast as they are shown. But goods won't sell themselves unless helped by honest, straightforward sound sense, and persuasive talk in advertising. And inasmuch as it is neither dignified nor policy to have a barker or sandwich man parading before your door, the best and most dignified medium is the newspaper. Women are the buyers and the readers of ads. Rest assured if you have anything to say in the newspapers, women are going to know it.

The old way to introduce a new style is to fill the cases (not even a card announcing the name or price) and wait several weeks before the community "cottons" to them through some one's private praise.

The new way—business-bringing way, money-making way—is to tell it to the town through the newspapers. Such announcement coupled with cases filled with attractive prints never fails to bring results.

Every one is in the photograph business to make money, and any one who says contrary is much mistaken and is known to take his "recreation" on the quiet, pitching quoits or driving golf-balls. When under the skylight we are after the dollars, all we can get of them in a legitimate, business-like way. You might sit and gloat over a handful of medals, and still starve or have a spasmodic, mediocre trade! Skirmishing around the back edge of the field, spitting on your hands, getting a "good ready" for opportunity, if it should swoop down upon you, is eating up your rents, courage and credit. Wise ones will clap on their spurs now and ride to the front! Good work and good advertising are sure winners. And the studios that will make money in the near future are those that turn out good work in a short time, medium priced, and advertise the fact.

But you say, "I haven't the time to write my ads, and when I do they don't read right, and nothing comes of them." That's the point to discuss right now. If you haven't the time or skill, procure the services of some one who has. There are plenty of excellent ad writers whose skill put into your business will give it life and prosperity. Be sure, however, you select some one who is in sympathy with photography, else his logic is dry and lacks the right ring that catches the customers.

Lastly, remember that all the advertising in the world won't hold trade and bring more unless the conduct of the salesman and the goods bear out the announcement. For if there's a place on earth where an Annanias comes to grief the quickest is in a photograph ad.

Think this over.

A SOFT, pleasing enlargement may be obtained from a hard negative by a modification of the old plan of making several successive positives and negatives. Place a transparency plate in contact with the negative, and give a very short exposure to light. Develop a thin positive from this, and place positive and negative film to film in exact register. When they exactly coincide bind the two together, and the negative is ready for copying. If the positive is too thin, the negative will still enlarge too harshly; if to vigorous the negative will be too flat. This hint is not new; but it has often been discovered, and on modifications of it several claims to fame are based.

When making up solution it is a good plan to put the date on the label, especially in the case of solutions that are not very frequently used. The age of the solution can be seen at a glance, which is in most cases a very good guide as to its fitness for use, and often avoids a waste of other material in trying it.

USEFUL TO PHOTOGRAPHERS

BY LEONARD KEENE HIRSHBERG, A.B., M.A., M.D.

Mr. Edgar Senior of London who is a practical chemist of note as well as a photographer of skill, recently had occasion to look over a number of prints made over sixteen years ago by various processes. In *Knowledge* he describes how every care was taken at the time to make them durable and permanent. Such, however, was the condition found in which nearly all that contained silver or its compounds were used, that Mr. Senior became more firmly convinced than ever that those made of carbon or platinum are the only really reliable ones.

Prints that were made upon collodio-chloride of silver paper were the exceptions to the rule; they withstood the wear and tear in the most perfect manner. Neither weather nor temperature changes affected them perceptibly.

As this want of permanence in prints may be, and often is a serious matter, you are necessarily lead to the conclusion that certain attendent conditions cause silver prints to fade. It has been often and accurately stated that the combined bath method is responsible for a considerable amount of the trouble. As these baths usually contain lead salts, added for the purpose of making the toning more regular, and as no amount of washing appears to entirely remove them, the ultimate result is that the whites of the print become discolored from the formation of sulphid of lead.

Perhaps there is something in this method, perhaps not, in any case prints made upon Lumiere's citrate of silver paper, and toned in such a bath remain unaltered after the lapse of some years. The real questions are to find which method is least likely to fade and why some fade and others do not.

An established test of permanence is to expose a print in a moist atmosphere under sunlight for several days. If no change of color followed it was supposed that the print would be permanent. But such a crude test proves absolutely nothing at all. Frequently it happens that papers examined under these supposed conditions, do not change but turn out to be far from permanent. On the other hand many papers thus exposed to a few days sunshine turn yellow or greenish, yet remain permanent prints under ordinary conditions.

Although gold and especially platinum, let this be recalled to mind, remains untarnished by ordinary atmospheric conditions, silver on the contrary becomes readily coated with a yellowish film of sulphide from the ever-present sulphuretted hydrogen in the air. These sulphur products arise from the combustion of coal, coke, wood, and the like as well as the decomposition of fermenting vegetable matter. Moisture not unnaturally aids these sulphur gases to act upon silver.

Increase in temperature also plays a part in favoring this chemical change, and when the photographic image is made up of silver in a fine state of division, you can understand why it is less able to resist the action of such bodies as sulphide of hydrogen. There are also many compounds which may be chemically alike, but also exist under several modifications which have entirely different properties. Such a one is silver and this explains why some silver pictures or images differ markedly from others.

In the instance of a silver print on white of egg, gelatin or colloido-chloride paper, the image is perhaps little more

than a darkened organic silver compound. That on bromide paper, on the other hand, consists of metallic silver. Hence there is a great difference between a printed-out image and one that is the outcome of development. The former is also much more readily affected by external agencies; even prolonged soaking in water is often enough to weaken them considerably.

If the cause of the fading is due to sulphurization, the product formed is possibly an organic sulphur compound of silver, for pure sulphide of silver itself withstands chemical change particularly well and bromide prints toned by means of "hypo" and alum—a sulphurization method—are durable and permanent. It might well be said at this point that some bromide prints tone better and more rapidly than others. Those which tone most quickly are found microscopically to have much more finely divided particles of silver than the others. This also plays an important part in the permanence of the image.

If the presence of hydrogen sulphide in the air is the most destructive agent upon silver prints, then perfect toning with separate baths of either gold or platinum is to be recommended, as a good deposit of these should go far to ensure greater resistance to atmospheric influences. An excellent test of permanence is to subject one-half of the prints to the action of sulphide of hydrogen for a brief space. The untreated half is then compared with the treated half.

With this standard it will be shown that prints toned with the combined bath will bleach first, then come the albumen prints, followed by the gelatin-chloride and collodio-chloride, and finally bromide. Then comes the problem of the mountant and its influence upon the durability of prints. Kept in a damp atmosphere, the mountant may, from decomposition liberate hydrogen. If this occurs, it will seize the sulphur in the "hypo" and generate hydrogen sulphide with calamitous results to the permanence of your image.

Sulphur then, it must be believed, is the guiltiest of all offenders in bleaching and destroying images of your prints. If this is kept emphatically in mind, not only will your prints be saved to posterity, but you may be inspired with an idea that will lead to the invention of a new printing compound.

FROM "THE CRITIC AS ARTIST"

EDUCATION is an admirable thing, but it is well to remember from time to time that nothing that is worth knowing can be taught.

The meaning of any beautiful created thing is, at least, as much in the soul of him who looks at it, as it was in the soul of him who wrought it.

We must surrender ourselves absolutely to the work in question, whatever it may be, if we wish to gain its secret.

The real artist is he who proceeds, not from feeling to form, but from form to thought.

Start with the worship of form, and there is no secret in art that will not be revealed to you, and remember that in criticism, as in creation, temperament is everything, and that it is, not by the time of their production, but by the temperaments to which they appeal, that the schools of art should be historically grouped.

A really great artist can never judge of other people's work at all, and can hardly in fact, judge of his own.

Technique is really personality. That is the reason why the artist cannot teach it, why the pupil cannot learn it, and why the aesthetic critic can understand it.

A dreamer is one who can only find his way by moonlight, and his punishment is that he sees the dawn before the rest of the world.

NOTES FROM LONDON

BY F. C. LAMBERT, M. A., F. R. P. S.

THE unexpected is often the source of a new idea. I was reminded of this at the London and Provincial a few days ago by the results of some experiments by Mr. Haddon, who we all know is a very careful worker. A number of strips of gelatine were immersed in a number of different developers, and then hung up to dry thoroughly. They were then tested as to their conditions of solubility, when it was found that all had become insoluble with the one exception of the strip that had been immersed in the glucin developer, which was soluble in boiling water. It is by no means improbable that we here have a clue to the reason why this developing agent has by rule of thumb or—if you prefer—by practical experience, become a first favorite in the tank method of development.

At the usual Thursday meeting last week of the London and Provincial the indefatigable Hon. Secretary, Mr. E. Human, gave a paper on color-sensitive plates, in which he laid due emphasis on the importance of the color plate used being adapted to the color plate with which it was to be associated. He was of opinion that one reason why color-sensitive plates had not obtained greater support was the pernicious notion that any odd bit of yellow glass would "do" for any color sensitive plate. It certainly would "do" for most plates in a way that was not at all desirable. We had been so long accustomed to the faulty color rendering of the "ordinary" plate that we were slow to recognize its defects. He instanced a photograph of a bluecoat schoolboy rendered by the ordinary plate in such a way as to show the dark-blue coat and bright yellow stockings both in much the same tone. A moment's thought would suffice to expose the gross absurdity of such a version of the contrast.

There is one point in connection with this matter of the translation of color into monochrome which seldom obtains the attention that it calls for. Suppose that we have a lady sitter in a green dress embroidered in red, and further imagine that this red and green are of equal luminous intensity or value, as measured by the scientist. To render this dress according to the teachings of the scientist only our aim should be to translate this red and green into the same monochrome tone; in other words, to obliterate entirely the pattern of the embroidery. But to most eyes red is a more "telling" color than green. The artist engraver knowing this would in all probability show the red embroidery in a decidedly lighter tone than the green ground. Scientifically he would be wrong in so doing, but pictorially he would be right. The pictorial photographer and painter or engraver are in agreement in aiming to convey the impression of appearance, but this cannot by any means be always best done by naked scientific truth. We have all long ago realized that in the pictorial representation or suggesion of motion certain conventions are more effective than literal fact, but few have as yet learnt that neither a literal transcript of color nor a scientific translation of color into monochrome is always the most realistic in conveying the suggestion of truth of appearance.

Mr. Human touched on the importance of guarding the plates from injurious light in the darkroom, pointing out that the more sensitive the plates were to various parts of the spectrum the greater need there was for care. To this I should like to add the warning of not placing too much trust in the so-called ruby glass so commonly sold as a safe light for darkroom lamps, because, so far as my experience goes, I have not yet had the good luck to meet with a piece of ruby glass which did not pass some rays other than red ones when examined with the spectroscope. I am far from saying that this is the case with all darkroom lamps, but merely utter a word of caution. Let three unexposed dry plates be taken, fixed, washed and dried. Immerse one of them in a water-saturated solution of aurantia for ten minutes and dry it. Similarly treat the second to a bath of naphthol yellow. Dye the third in a bath of methyl violet 6/B to about the color of a wild violet petal when the plate is viewed by transmitted light. These three plates bound up together give a screen which only passes a somewhat narrow band in the extreme red, and so is comparatively a safe light if used with reasonable caution. It is only fair to warn the reader that with this screen and ordinary gas we do not get a very brilliant light; yet it is enough to see where the developing dish is, and so on.

"Photography is about played out," "Now that it is so easy and every house contains a camera, it will soon go out of favor," are typical of many phrases one heard a few years ago. In this light it is interesting to note the rapid strides that the wide-world-known firm of Kodak has made. Eleven years ago the annual earning was in round numbers £564,000, while in 1912 it was £2,886,000, or, say, an increase of fivefold or more. Comparing 1912 with 1911 there is an advance of very nearly half a million profits. This certainly does not look much like photography being played out. To Kodak's big business we have to add quite a large number of other businesses, which in the aggregate must total up to an enormous sum.

The issue of the *British Journal of Photography,* dated April 1, contains a formula for a varnish which may be applied to photographic prints and is calculated to prolong their life considerably by protecting them from the injurious effects of impure air. One ounce of borax dissolved in 12 ounces of hot water and then 2½ ounces of white shellac added. The mixture is to be kept warm until the shellac is dissolved. When cold the mixture is strained through a double thickness of muslin. Platinotype prints require to be sized before this so-called "water varnish" is applied. But bromide or gelatino chloride prints require no such preliminary treatment. It will be understood that this treatment refers to unmounted prints, and as photographs are now so freely used in many lines of business, how to keep them in as good condition as possible is a matter that concerns not only photographers but a considerable section of the general public. It may be useful to add that white lac is also known as bleached lac, and is usually stored under water, which treatment is said to render it more easily soluble.

The self-conscious "know I'm being photographed" expression spoils a large number of photographic portraits of the amateur and professional alike. This can best be avoided by talking to the sitter and getting him interested in some subject apart from the business in hand. A soft, or at any rate a softened, outline is to be aimed at. Mr. Lisett prefers to speak of conventions rather than rules of composition. A portrait may be merely informing, *i. e.,* a transcript of facts of appearance, or it may go further and be inspiring and convey something of mental character. The aim of the photographic portraitist should be to reveal rather than to create. Facts are valuable in their place, and may be compared to the foundations of a building.

The lighting of the subject is a matter of first importance. It should not be so strong that one cannot see the flesh color on the forehead. In general it will be found advantageous to shade the hands a little, so that they may not contend with the head, which, of course, carries the chief interest. When posing a figure for the three-quarter face position it is generally desirable to be able just to see the further eye. A soft, rather than a contrasty, negative is desired. Therefore, the exposure should be ample, but development must not be carried too far. When the lighting is agreeably adjusted, the ground glass image will appear to be somewhat tending towards flatness. Mr. Lisett prefers the quickest plates that he can get, and also follows the actinometer system of estimating exposures. Rodinal is suitable for development. A one per cent. solution at 62 degrees Fahr. takes about eighteen minutes to give the needed quality of negative. Among the excellent examples of negatives and positives shown was one illustrating the use of artificial light, viz., 20 second exposure, with one incandescent gas mantle, with stop F. 4.5.

A long and lively discussion indicated the wide interest of the subject. The desirability of seeking natural backgrounds in the home, rather than the employment of artificial backgrounds, was urged. It was also pointed out that some form of lens shade was needed, so that the lens should receive only that light which was required to form the picture. When enlarging portrait negatives two methods of using chiffon for the production of softened definition effects were advocated. In the one case the chiffon was placed about midway between the negative and the enlargement; in the other method a circular piece is placed inside the lens, *i. e.*, between the front and back components of the lens.

"Points for pedestrians" was the apt title of an excellent lecture by Mr. Harold G. Bailey at the London and Provincial, wherein he gave a large number of practical hints on many of those little matters which go to make or mar the pleasure of the tramping photographer. As these hints are the fruits of a number of tramps made by the speaker they are well worth consideration by us all. Walking is by far the best way of getting about. We are then free to take side paths that are not practical with a cycle, and all risks of "puncture" and other delights of the wheelman are escaped. The pedestrian who at home leads a sedentary life and so is out of training often makes an initial mistake by starting with too long walks. One should begin with, say, ten miles a day or even less, and gradually increase the distance day by day up to, say, twenty miles or so. One should never feel exhausted or over tired at the end of the day's journey, and one should never start off immediately after a full meal. The early morning and late afternoon or evening are not only the pleasantest and least fatigueing times for walking, but these are the hours when one finds the best effects of light and shade. A rest should always be taken in the middle of the day.

Having tried various ways of carrying the kit he finds the rucksack much the best. Do not start a tour with new boots, but with a good strong pair that have been worn long enough to have become comfortable; and on no account forget to take a pair of slippers. Neither should one take a camera with which one is not abundantly familiar; for good work can only be done when there is intimate acquaintance between the man and his tools. Before starting the camera should be carefully examined to see that it is in perfect and easy working order. Take as little in the way of luggage as possible. It is astonishing with what a small amount one can manage for a week or ten days when everything has to be carried on one's back. The kit should include a wide angle lens, and also a tele-photo or a long focus lens. In spite of the extra weight he prefers

plates (quarter plate size) to films, and adds the sound advice that all tourist photographers should learn to change their plates in the dark, *i. e.*, guided by the sense of touch only. Mr. Bailey advocates the telescopic form of tripod, despite the somewhat unreliable character it has acquired. The kit should include an actinometer and an exposure record or note-book. A reliable map must be included. A piece of string or tape will often be found serviceable as a stay for the tripod legs. A few drawing pins in a small wooden pill-box may enable one to make a room temporarily dark enough for changing by fixing a table cloth and curtain over a small window. Finally, he warns us that we may be called upon to pay duty on dry plates on entering Belgium or Italy.

Some years ago the end of the year or the early spring was marked by the appearance of various volumes of what, for lack of a better term, we may call the year book type. Doubtless there was some good reason why their appearance was not continued, at any rate on the old lines. These valumes usually contained a large number of short notes or articles, giving the photographic public the benefit of many of those little odds and ends, short cuts, dodges, and so forth that we all at times either work out or stumble on. In this way we got the benefit of "many men, many minds," as notes over signatures that we otherwise were not likely to see. For this, among other reasons, I am glad to learn that the American volume, "Photographic Mosaics" is shortly to be revived under the editorship of Mr. T. C. Watkins, the editor of the well-known monthly publication, WILSON'S PHOTOGRAPHIC MAGAZINE.

ON PHOTOGRAPHIC MAKESHIFTS

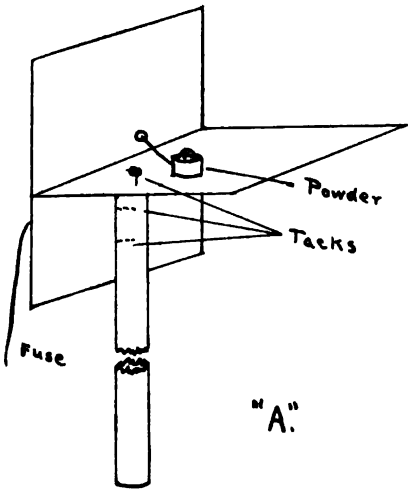
BY PAUL S. HELMICK

A FORTNIGHT ago, while away from home, with only a camera and plate-holders, I was suddenly called upon to make a series of flashlights, illustrating the meetings of a certain university literary society. Upon a hurried canvas of the few and ill-stocked photographic supply houses in the town, I finally obtained a handful of small flashlight cartridges, a printing frame, a supply of gaslight paper, and the necessary chemicals, but no suitable trays.

At a hardware store, I procured a few black-iron bread trays, and a quantity of paraffine. A liberal coating of the latter, prevented the possibility of any rusting, or of chemical action on the part of the iron.

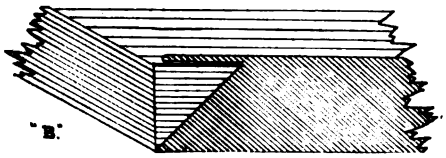
For igniting the flashlight, I found a curtain pole, and, with two pieces of glazed cardboard, improvised a holder and reflector, as illustrated in "A." The contents of two of the flashlight cartridges were then mixed together, the fuse passed through the hole in the cardboard, and finally ignited.

For loading the plates into the tank, I could not make the room light-tight, so, pulling down the curtains, and placing tank and plates under the covers of my bed, I proceeded exactly as if I were using a huge changing bag. With the cover of the tank pulled a little to one side, I poured in the developer, without the slightest trace of fog.



I met with another difficulty when I attempted to print, for I was forced to develop the prints in my bedroom also, for, if the kitchen were darkened, we boarders must need go supperless.

Now a photographer has some slight sense of propriety and to save the furniture and rugs from indelible amidol stains, I made a large, water-tight cardboard tray, capable of holding the four iron trays, before mentioned. I bent up the edges of a large piece of strawboard, as in "B," and fastened them with glue.



Then, to the strawboard, I glued a sheet of paraffine paper, of the same size, and folded in the same maner, so that I had it completely water-proof.

The prints were then exposed, one after the other, to a tungsten light, developed, rinsed, and then, after fixing, were placed in a tray of water to remain until the whole number could be washed, —which process took place in the light of the kitchen.

SILHOUETTES are often made as a novelty by photographers. There is not, perhaps, any money in them except very occasionally, but a modification might prove commercially useful as a season's novelty in some seaside or holiday resort. Instead of giving the usual dead-black thing, reflect just a little light back into the shadow. This can easily be overdone. Just enough is required to give a slight grayness to the cheek and to indicate the collar. A very effective combination of ordinary portrait and silhouette can be made by posing a subject with her dark side toward a mirror. The sitter is photographed in the usual way, and a shadowy silhouette is reflected from the mirror. Some little care may be required in the pose in order to get a clear profile in the reflection, but if well done the result will be a very attractive showcase subject.

Rough retouching without medium is easily and simply accomplished by matting the surface of the negative locally with a touch of pumice powder on the finger-end, then working the requisite touches on it with the lead-pencil. This surface is much easier than medium for the beginner to work on, and has the distinct advantage of taking more lead. Moreover, defects may be removed by its means that would be more difficult with the ordinary method.

Spotting Pinholes.—Pinholes cannot be spotted out with a pencil so well as with a very fine sable-hair brush with the pigment almost dry. Retouching medium is best applied with the tip of the finger. It dries at once, and a pencil may then be used, but it is not so suitable as a brush. As there appears to be some prejudice against the brush, an alternative method nearly as good is to use a fine-pointed quill pen to apply the pigment with, or it may be charged with writing ink which has been exposed to the air till it is slightly thicker than is agreeable for writing purposes.

FRANCES BENJAMIN JOHNSTON

MATTIE EDWARDS HEWITT

BY EVA VOM BAUR

Here is how two women in New York have created a district photographic field for themselves by a combination of technical expertness and artistic appreciation, taking commercial photography out of humdrum lines and stamping it with personality and distinction.

At Madison Avenue and 42nd Street, one of New York's busiest corners, on a late spring day, office work in the adjacent buildings was almost suspended while their occupants filled tiers of windows to watch the procedure of two women setting up a camera on a roof across from the Manhattan Hotel. The camera was unlimbered, screwed to the tripod and focussed with business-like celerity, but for a good two hours the shutter was not snapped for the exposures, and the patience of the curious watchers was soon exhausted, their unanimous verdict, doubtless, being that these two were beginners who did not know their business. The patience of the two women endured however, leaving them calm and unruffled at the end of the long vigil on the house top, for to await the most favorable conditions was simply the first requisite in their picture-making methods. Setting up the camera was merely the preliminary, the opening of the tool chest, The light must be just right—sunlight glancing to give relief and brilliancy, street traffic watched for a good arrangement, and the hotel itself was "dressed" for its picture—shades drawn to uniformity, windows closed, waving curtains restrained, window cleaners eliminated.

No detail affecting the final result was too trifling to be considered and while two hours on a roof waiting for the psychological moment to photograph the exterior of a building may seem a needless waste of time, still these energetic women are constantly demonstrating that the factor of tireless painstaking can be made a paying proposition both to their clients and to themselves.

Carlisle's definition of genius as "an infinite capacity for taking pains" sums up the faculty which is the keynote of the success of Miss Frances Benjamin Johnston and her co-worker Mrs. Mattie Edwards Hewitt.

It is in New York, seemingly a field already filled with a small army of commercial photographers that they have carved out their own niche, "a little higher up" where there is traditionally plenty of room—and it is this individual quality in their work which has placed them generally above competition and won recognition from an exacting and discriminating clientele, art-collectors, architects, publishers, owners of great estates and palatial houses, big business organizations, schools and manufacturing plants.

Their success is due, however, to something more than skill and patience, for it lies, fundamentally, in their attitude towards their work. Subjects that present the most serious problems are the most interesting to them; anything that requires great care and delicate handling is particularly welcome. They put all their best energy, their enthusiasm, their full mental power into each task and naturally they get the best results.

Miss Johnston and Mrs. Hewitt, are in a sense, newcomers to New York, having joined forces some four or five years ago in Washington where the former had already achieved success in many lines of photographic work, while the latter had also won recognition in her native city of St. Louis.

FRANCES BENJAMIN JOHNSTON

MATTIE EDWARDS HEWITT

BY THE GERHARD SISTERS, ST. LOUIS, MO.

Their ability to handle difficult problems and their leaning towards the kind of photographic work which took them entirely outside the confining walls of a studio, brought them many out of town commissions.

When, through the interest of the late John M. Carrère, they submitted a bid and won the contract for photographing the New Theatre, the two women finally yielded to the lure of the great metropolis and decided to make it the centre of their larger activities. Beginning modestly in a refitted hall-closet connected with their living quarters in an old fashioned house in Irving Place, the two started in to exploit, in their own particular way, lines of work heretofore regarded as strictly commercial, in a field which had been practically monopolized by men.

Adventurous spirits, these two climbed to house tops or window ledges as occasion arose; sometimes blocked traffic in their eagerness to get precisely the right point of view, and with the same enthusiasm and unbounded patience tackled every commission which was brought to them, whether great or small.

In this way they have developed for themselves a practically unlimited field among a steadily growing clientele of discriminating patrons, specializing in every phase of photographic work which may be done *outside* a studio. This includes at home and outdoor portraiture, architectural photography, interiors, gardens, country estates, art collections, schools, manufacturing plants. In addition and on a more purely technical plane they photograph paintings, bronzes, marbles, tapestries, decorations, furniture, even tombstones and fashions, also copying miniatures, daguerreotypes, maps, plans and drawings.

Miss Johnston and Mrs. Hewitt do all their own operating, and personally supervise every detail of the printing and finishing. They work with both 8 x 10 and 11 x 14 cameras, equipped with a battery of lenses consisting of the Bausch & Lomb-Zeiss convertible series VIIA for long focus, with Zeiss series V and Goerz series III for wide angle work. For the greater part of their finished work, they make sepia bromide enlargements, as giving quality and richness of tone.

A partial list of some of their more important work will indicate their versitility. Following the New Theatre, they have executed commissions for many of the leading architects, Carrère & Hastings, McKim, Mead & White, C. Grant La Farge, Cass Gilbert, Cram, Goodhue & Ferguson. They have made records of the New Library, the Cathedral of St. John the Divine, the new academical buildings at West Point, the City National Bank, the plant of the American Bank Note Co., The Prudential Insurance Co., the Manhattan Hotel and a series on the steamships of the North German Lloyd Co. They have done many great estates and notable houses, including those of Mrs. Philip M. Lydig, J. P. Morgan, J. J. Astor, E. C. Converse, Mrs. Harry Payne Whitney, to list only a few.

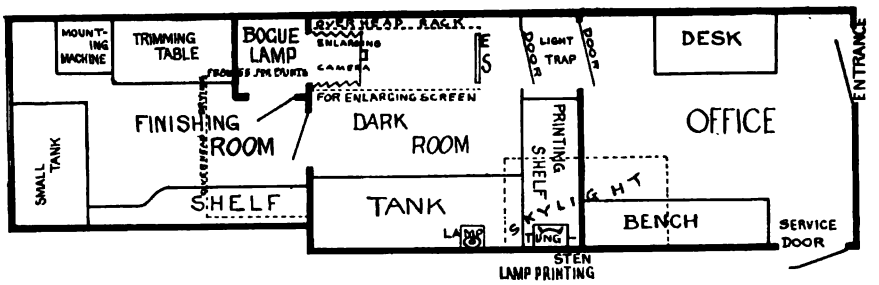
Miss Johnston and Mrs. Hewitt are also among the few women who are doing successful work in color photography and some of their recent plates give full play to their sincere feeling for harmonious treatment of both color and line.

Entirely outgrowing their first venture "the firm" moved some two years ago to their present quarters at 628 Fifth Avenue, and now employ a "force" of one, as printer and dark room man. Here sacrificing roominess for the sake of an unrivalled but high priced location these clever women have evolved thoroughly practical and well-equipped work rooms out of so limited a space they needs must figure in inches instead of square feet. It is doubtful if any mere man would have considered 7½ x 30 as a ground plot adequate to a real photographic establishment, but the scheme works out so successfully in the way of convenience and economy, that one does not realize its miniature dimensions even from the subjoined diagram, cheerfully furnished for whatever benefit it may prove to others. From the office furnished in tones of soft grey, one

A LOGGIA IN SUNLIGHT—LATE AFTERNOON

BY FRANCES B. JOHNSTON—MATTIE E. HEWITT

ZEISS CONVERTIBLE LENS. F 64
SLOW CAP EX.
STANDARD ORTHONON PLATE



COMPACT FINISHING AND DARK-ROOM

enters through double swinging doors the dark room fitted with a generous sized tank 6 x 2½ feet and 8 inches deep, and having a printing shelf at right angles equipped with its own lamp—the enlarging camera occupying the opposite corner. Trays are stowed beneath the tank, chemicals above; printing papers are secure in a light-tight compartment under the printing shelf, with new plates and negatives to be printed in overhanging cubby holes, while above the enlarging camera a broad shelf or platform gives ample space for storing cameras and card stock. The dark room has one unusual and most desirable feature—both daylight and ventilation—derived from an overhead skylight, screened at need by an adjustable trap door worked by cords and pulleys. The neatest of all neat and compact arrangements in this work shop is that made for the enlarging lamp: a Bogue arc lamp on an adjustable iron standard, which occupies a small square cupboard entirely *outside* the darkroom though controlled from inside. Its light passes through a 12 x 15 inch aperture in the partition to the enlarging camera placed on an adjoining shelf, while the enlarging screen is hung from overhead tracks and is shifted back and forth by cords and pulleys. Condensers are not used but several sheets of opal and ground glass for diffusion, and they enlarge successfully from plates up to 11 x 14 in size. The third room, the finishing room, also contains a sizable terra cotta tank used for washing prints and negatives, which with a great window behind is ideal for "doctoring" negatives as well as for redeveloping color plates. In addition there is a dry mounting machine, rows and rows of negative files, drying frames tucked away very high up, with print files in cabinets and drawers, under the trimming table. The ingenuity and resource which Miss Johnston and Mrs. Hewitt have shown in these arrangements extend to their methods in handling the actual work of photography. They are not bound by convention and they get their results, many times, by utilizing the simplest but most effective means at hand.

As an instance all the interiors of the New Theatre were taken by electric spotlight, as magnesium powder, by the pound, would barely have sufficed to make any impression in that cavernous auditorium with its deep red and gold furnishings. In some interiors presenting unusual difficulties they will use both day light and flash, at times helping out dark corners with their own printing lamp screwed into a convenient socket They work against the light or with the sunlight streaming in upon them, at night for some picturesque effect, or in dull weather where the conditions demand it. They aim to make photographs which will not only show technique, but the view point of the artist, the architect or the designer. In short, they seek the spirit of things and strive to get beyond the outward form to the underlying idea.

INTERIOR—COMBINATION OF DAYLIGHT AND FLASH
RESIDENCE OF MRS. HARRY PAYNE WHITNEY

GOERZ LENS, SERIES III, NO. 2. F 64
25 MINUTES EXPOSURE WITH SUPPLEMENTAL FLASH
STANDARD ORTHONON PLATE

BY FRANCES B. JOHNSTON—MATTIE E. HEWITT

AN INTERIOR IN SUNLIGHT
RESIDENCE OF MRS. PAYNE WHITNEY

BY FRANCES B. JOHNSTON — MATTIE E. HEWITT

GOERZ LENS, SERIES III, NO. 2
7-IN. FOCUS. F 64. 6 MINUTES EX.
STANDARD ORTHONON PLATE

CRAGSTON IN SPRINGTIME

J. P. MORGAN'S ESTATE HIGHLAND FALLS

ZEISS CONVERTIBLE LENS. F 64
SLOW CAP EX. STANDARD ORTHONON PLATE

BY FRANCES B. JOHNSTON — MATTIE E. HEWITT

THE NEW YORK LIBRARY AT NIGHT

ILLUMINATION FROM ELECTRIC STREET LAMPS AND ELECTRIC DISPLAY SIGN ON HIGH BUILDING ON OPPOSITE STREET CORNER

ZEISS CONVERTIBLE LENS. F 32

45 MINUTES EX. STANDARD ORTHONON PLATE

BY FRANCES B. JOHNSTON — MATTIE E. HEWITT

OUT-DOOR PORTRAIT GROUP—MRS. FRANK VANDERLIP AND HER CHILDREN

1 A KODAK FITTED WITH ZEISS PROTAR LENS STOPPED TO F 32 SLOW SHUTTER

BY FRANCES B. JOHNSTON—MATTIE E. HEWITT

THE MOSES TAYLOR PYNE GARDEN AT PRINCETON, N. J.

BY FRANCES B. JOHNSTON—MATTIE E. HEWITT

LATE AFTERNOON WITH SINGLE COMBINATION OF ZEISS CONVERTIBLE LENS
STANDARD ORTHONON PLATE. F 64. SLOW CAP EX.

BAS-RELIEF OF OLD ITALIAN MARBLE
FROM THE ART COLLECTION OF MRS. PHILIP LYDIG

BY FRANCES B. JOHNSTON — MATTIE E. HEWITT

ZEISS CONVERTIBLE LENS. F 64
3 MINUTE EX.
STANDARD ORTHONON PLATE

CEILING DECORATIONS BY PAUL BAUDRY
FOYER OF THE NEW (CENTURY) THEATRE

BY FRANCES B. JOHNSTON—MATTIE E. HEWITT

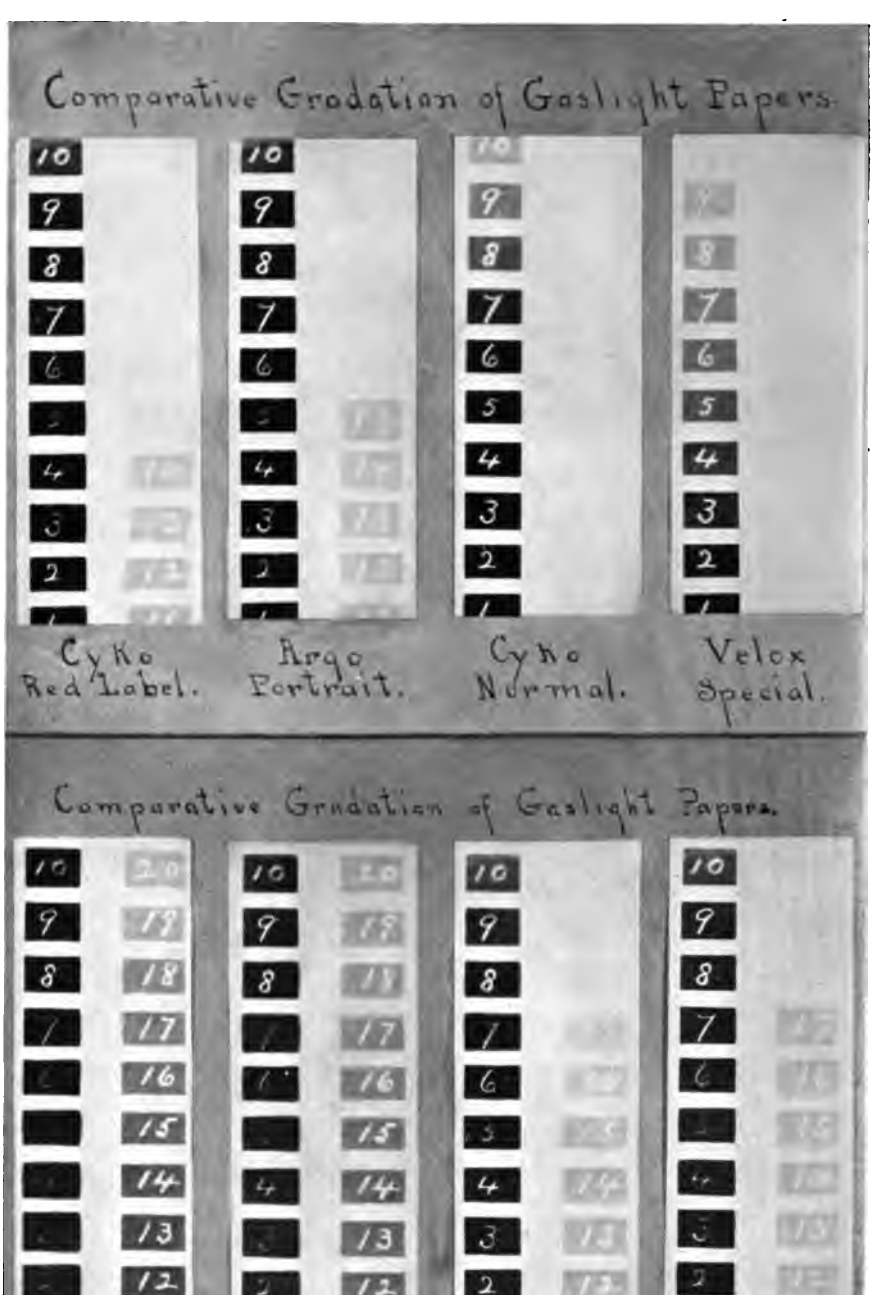
ZEISS CONVERTIBLE LENS
15 MINUTE EXPOSURE
STANDARD ORTHONON PLATE

1 BY PIEPERHOFF, LEIPZIG

2 BY PIEPERHOFF, LEIPZIG

3 BY DÜHRKOOP, BERLIN

4 BY KNOBLE, INGOLDSTADT



SEE "COMPARATIVE GRADATION OF GASLIGHT PAPERS"

COMPARATIVE GRADATION OF GASLIGHT PAPERS

BY JAMES THOMSON

GASLIGHT paper is at the present time undoubtedly in the ascendent. Of this there is plenty of evidence if one will but use his eyes. Time was when none but the amateur would have anything to do with the paper. Not so to-day when we find it in the show cases of the majority of professional workers throughout the land.

Twenty years ago conditions were different. There was available but a single grade which as a printing medium was extremely crude. In range of tones the steps were few and consequently steep, requiring in order to get satisfactory results a special soft negative. The average print made with the paper was so harsh it was enough to set one's teeth on edge.

Time, however, has changed all this. Instead of as formerly but one manufacturer now there are many. The circle of chemists experimenting along this particular line has widened. We now have at our command brands and grades of contrast bewildering in number, while surface texture has not been overlooked some of the most recent being very artistic.

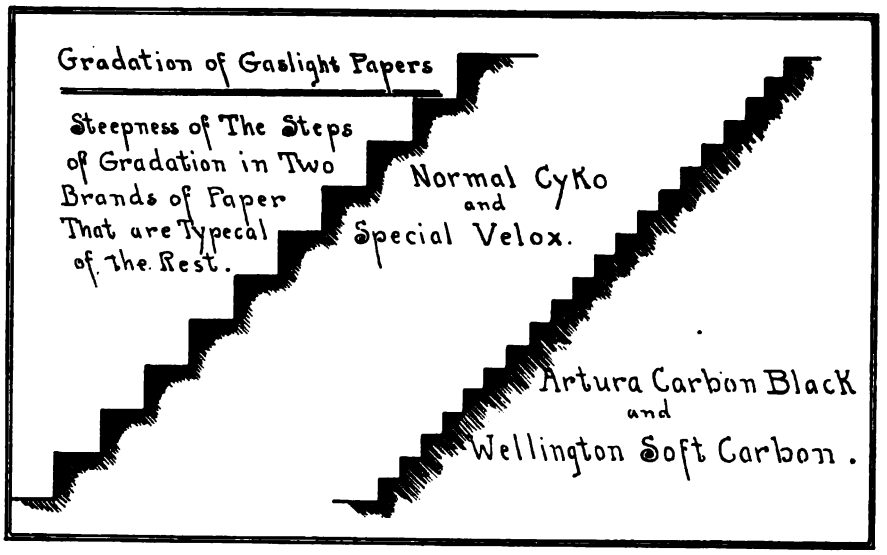
There are generally available at least three grades of contrast, hard, soft, and medium. The hard grade is for use with thin flat negatives from which no satisfactory print is possible on P. O. P. The soft grade on the other hand is for use with intense negatives, but by certain modification it can be used for all kinds. The medium grade is the most useful as it suits, as a rule, the average negative extremely well. There is, in fact, a grade to answer the requirements of every negative, hence one of the strong points of this class of printing media.

During the past year I have been called upon to test the gradation capacity of gaslight papers. It has not only been interesting but furnished some surprises. The contrast grades of the various makers in tone rendering capacity differ but little. The soft grades differ very much. In other words, the soft grade of one maker is far from being the soft grade of another. Soft Cyko, for example, is far from being as soft as Artura carbon black. In order to accurately determine precisely how the matter stands we must have resort to the graded screen where there are forty degrees of opacity, each square doubling on the previous one.

One can, of course, in a general way get some idea of tone capacity by making prints in the customary manner. It is, however, a roundabout method, and not at all conclusive. There is but one certain way and that is to print under precisely the same conditions the various brands of paper under the graded screen and tabulate results.

In the presence of such a test the claims of this, that or the other exploiter goes for naught. As in portraiture we want above all else to preserve the delicate half tones that the negative furnishes, we must have a paper equal to the task or fail. In order to guard against such sacrifice we must have a paper capable of giving an extended range of gradation; certainly at smallest sixteen squares on the screen. Once we have such a record there is no gainsaying the facts.

In conducting the tests (half a dozen of them) there was used a circular wick oil lamp. At a certain distance from the illuminant the various sheets of paper were exposed under the screen for two minutes. Printing completed, all the



papers were developed in Metol-Quinol for just a minute; then fixed and washed as usual.

Let us consult the resultant charts and note results. In the first place it needs no extended argument to establish the fact that a paper lacking capacity to render more than ten gradations is unsuited for the purposes of either the portraitist or the pictorialist. There are in the average negative at least fifty gradations, hence ten in the print will not answer. Can such a paper do justice to flesh tone? Can it render the subtle nuances of the faces? Can it do justice to the delicate half tone work in the landscape of the pictorialist? In neither case is it adequate.

The four soft working papers for purposes of comparison are ranged side by side. They are useful where a long range of tone is required, where negatives are intense, and where soft gray effects are in order. They have great latitude, and while with normal developer softness is the rule, it is quite possible to increase contrast by lengthening the exposure and diluting the developer.

Soft Cyko is a soft paper indeed, but not quite so much so as the foregoing. The same also may be said of professional Cyko. These two come between normal Cyko and Artura carbon black. Argo portrait also comes in the intermediate class. Normal Cyko and special Velox are in gradation capacity pretty nearly alike, hence the latter is not as some people imagine a soft worker.

To make the gradation question more readily understood I would refer to the sketch where are drawn two flights of stairs. Each step represents a gradation. Assuming that we have a given space wherein to build our flight of stairs, using normal Cyko or special Velox we are restricted to ten steps and they are steep ones. Using Artura carbon black or Willington soft carbon we can have in the same space twenty steps and the ascent is very gradual. Using soft Cyko we shall have seventeen.

The normal papers having no greater gradation capacity than ten squares it can be imagined how limited must be the number where the contrast grades are involved. Small wonder then we see so much photographic rendering of the chalk and charcoal order. The hand camerist as a rule underexposes and develops with normal developer. The resulting negative is contrasty. To crown all he elects to print on a contrasty paper and there you are.

EDITOR'S TABLE

The National Convention

WITH the approach of the National Convention, to be held at Kansas City, from July 21st to 26th, inclusive, our daily mail is heavy with the inquiry: Is it really profitable for me to go to the convention? Some have money to go, but hesitate to spare the time; others have an abundance of time, but hesitate over the expense involved; and there are apparently some who cannot make up their minds as to the advantages. To one and all, regardless of circumstances or conditions, our counsel is—GO. If there is one thing clearer than another about The National Convention as a gathering of photographers, it is that everyone who attends gets more than his money's worth.

Another question often put to us of late is: How can I best profit by my visit to the convention? To this may be answered: Go with open eyes, open ears, and, most important of all, an open mind. The National Convention brings together a larger and finer collection of professional photography than can be seen elsewhere. It brings together in a friendly spirit more professional photographers than any similar institution in the world has yet gathered into a single body. It offers the photographer a holiday at a nominal figure, with a change of scene, and a scheme of instruction and social pleasures so loosely interwoven that he may take of each as much or as little as is desired.

How shall the photographer profit by his visit to Kansas City. First and foremost, he should open his mind for the reception of ideas, *putting aside the "rut" which confines him in his business, and trying to regard what he sees and hears as perhaps equal or superior to his own methods.* He should make the most of his opportunities to get acquainted with his co-workers and exchange his ideas for theirs as far as is possible, thus renewing his point of view and stimulating his thoughts of his profession and its usefulness. He should devote as large an amount of time as can be spared to study of the pictures, remembering that the failures may teach him more valuable lessons than the successes. After he has gained a degree of familiarity with the exhibits, and tried to understand why this and that was done, an attempt should be made to measure his own capacity alongside what he sees before him. New styles, new poses and lightings, new methods of finishing and mounting should all receive careful attention. If he can make a few notes concerning the more prominent pictures he will find these useful for after study when the pictures appear in this or that photographic journal. Sometimes much instruction can be gained by going about the exhibition with a fellow-photographer and discussing with him the points of the pictures.

The business sessions of the convention

should be attended as a matter of duty, and the intelligent photographer will endeavor to take an active part in them, so that they may be made what they are intended to be—conferences of workers engaged in a common cause.

To the photographer from the smaller towns and cities the dealers' and manufacturers' department offers an excellent chance to review the staples and novelties in apparatus and supplies essential to the practice of his profession. There is little need, however, to urge attention to this department and to the entertainment features, as the photographer will be so taken care of in each case that escape will be practically impossible.

The officers of the Association have worked hard to make the 1913 convention successful and profitable alike to the old and young hands in professional photography. We urge all who can arrange for the few days' holiday to make the effort and attend. Looked at from any and every point of view, they will acknowledge it to be a thoroughly good investment, and return to their studios abundantly repaid for all it has cost them.

Concerning Wilson's

As the more discerning of our readers have doubtless observed, we have made several desirable improvements in the typographical make-up of the Magazine. A new clear face of type has been used throughout, the titles of our contributed papers are set in a bolder type, which gives them greater distinctness, and we have had made new and better paper-stock both for text and illustration pages, all of which must surely add to the pleasure our readers have in the perusal of "Wilson's."

That the features of the Magazine, its aims and practical character are fully appreciated has been abundantly shown of late by the gratifying increase in the number of our subscribers. One result of this increased support is seen in the changes here apparent. The making of a practical journal is a work which requires liberal expenditures, and hence the larger the income from the Magazine, so much the more can be returned to its subscribers.

We have arranged a very attractive programme for the year, the features of which will be unfolded month by month. In this issue we begin an important series on "Profitable Side-lines for the Professional Photographer," which are sure to prove of real value. Briefly, this programme means that "Wilson's" will be more than ever the best and most useful journal published for practical photographers. It is our aim to make "Wilson's" the one journal which shall properly represent American professional photography at its best, shall protect its interests, and keep the fraternity well informed concerning whatever is interesting or of importance. This is no light task. It involves more labor than our readers can readily appreciate, and necessitates expenditures which can only be provided for by the generous co-operation of those for whom the work is done.

In this issue the reader has a fairly representative example of what we believe a professional journal should be. But we want to make it still better, still more interesting and more helpful. Lend us your practical help. Renew your subscription promptly—which means *to-day*, and send, wherever possible a new subscription with your own. We want every American photographer upon our list, and those who help us to attain this purpose will not find us lacking in appreciation.

Photography as a Business

In no other calling, perhaps, are the ideas of its votaries upon photography as a business more varied, judging from a careful observation of the methods practiced, than those of the portrait photographer who enters upon his calling for the purpose of supporting himself and those dependent upon him, or to secure a comfortable competency. The controlling idea with a large proportion seems to be that if their prices are only low enough, little or no care is necessary as to the quality of their work. They assume that the average patron of the studio does not know the difference between superior work and that which is very inferior, and that low prices, therefore, bring business. Hence they adopt every plan which promises to cheapen the product. On the other hand, there are those who aim high in their efforts to produce a quality of work which will bear the most severe criticism, both as to technical and artistic excellence, work which shall reach the highest possibilities attainable in its rank.

No pains or expense are spared in their attempts to reach this goal, and if this ambition is backed by intelligence and a goodly degree of inherent ability in this direction, it is likely to succeed. The danger in such cases, from a business standpoint, comes not in the success attained, but in the liability to assume that the quality is so high that the "better classes" will have it, even at prices which the general public regard as exorbitant, and this leads to fixing prices accordingly. It is doubtless true that there are some people in all large cities whose pecuniary possessions far outweigh the mental. Such would naturally patronize the photographer who charges the highest prices and shows the most "style," in his studio equipments and furnishings, and does good work. But we believe the number of such to be very limited, and that they, together with all who are indifferent regarding price, are insufficient in number to give satisfactory support to any studio which charges exorbitant prices, even though the quality of the work may be of the highest. The above classes are, of course, extremes, but many have the tendencies of the former; less of the latter. Between these there is a mean which has been adopted by and found immeasurably more successful financially than any other basis, viz.: the basis of furnishing *good* work at *moderate prices;* and we feel perfectly safe in *assuring business success* to any photographer who uses proper care in the selection of a location, and gives proper attention to neatness in his rooms, and who is considerate and courteous in his treatment of patrons, whom he supplies with a *high grade of work at fair prices.* Such a man finds himself supplying a popular, neverfailing demand—such a demand as neither the "Cheap John" nor the high-priced crank can either fill or take away from him; and he need, therefore, have no fears of any permanent loss of patronage because of such competition.

Good work in every branch of industry ever has been, and will doubtless continue to be, in popular demand, and will be rewarded with fair if not liberal compensation; and our observations have led to the conclusion that almost without exception those who have made a financial success of photography as a business, have laid their plans on this basis. Success comes to those who apparently comprehend the fact that at least nineteen-twentieths of their patrons are neither paupers nor millionaires, but plain and for the most part well-to-do people, who want good work and are willing to pay fair prices for it.

The Slack Season

It will often happen that during the busy season there is not time to make the best of each customer, but in a residential district this can be made up in the slack season. An index card file should be kept, on which is entered the names of customers who are likely to order, with a note as to their tastes. Then when things are quiet write a letter on one pretext or another, and have the subject judiciously introduced; if properly done, this has none of the appearance of soliciting, and slack seasons have been converted into profitable times in this way.

Seaside photographers cannot do this, but they very commonly neglect their opportunities during the season. There are many ways to advertise "There's a photographer in your town." In all this, much depends, however, on your ability. Undoubtedly the first aim when business comes must be a pleasing likeness. It may be technically and artistically excellent, but if it fails in expression it is useless. A very imperfect picture photographically will be preferred in which the photographer has secured the expression which is liked and recognized.

In endeavoring to push business, the photographer doing with a good-class connection should beware of anything that may result in the loss of prestige. We have in mind the case of one who had a high-class clientele, and who, by an unlucky inspiration, announced that he would take sitters at half-price on a certain day in each week. That brought him ninety and one hundred sitters a day, but before long he had to charge the reduced prices at all times, and never recovered his former position.

As a rule, also, it is weak policy to do enlargements "on spec." in the hope of the customer buying. The photographer is at his customer's mercy in the transaction, and it creates the impression that he is hard up for business. Moreover, curiosity and imagination come into play when a customer is properly handled by a skilful receptionist, but are lacking when the customer sees the work completed.

TRANSLATIONS AND ABSTRACTS FROM ABROAD

BY LEONARD KEENE HIRSHBERG, A.B· M.A· M.D. (John Hopkins)

Asphalt Gum in Photography

Das Atelier des Photographien states that to improve the paper mache shells, asphalt gum can be well recommended, but the mixture must never be too thick but smooth, thin, and, therefore, five to six times thus mixed up. This ensures the sheets drying well and what is more important, they must be allowed to stand in the bright daylight some hours in order that the sensitive parts of the asphalt become insensitive to any possible effects.

If you treat all the pictures in this way, then the colors and the repair of the shells with asphalt will serve an excellent purpose. The pictures will now last a long time, and only the most unexpected severity can break the part repaired. A good formula for a serviceable solution is the following:

Genuine Syrian asphalt, pulvarized	450 grams
Weak linseed oil varnish.....	125 grams
Oil of Turpentine.....	1000 grams

The whole mixture is placed over a gas fire and heated in a large enamel vessel, which must stand upon an iron disk. Meanwhile stirring carefully all the while. The mass is very inflammable, so great caution must be observed that the fire never comes in contact with the mixture. When the mass has been sufficiently heated, the vessel is removed, and the whole is put into a corked vessel. Only when you desire to use some of it, is it poured out.

Blue Toning of Silver-Bromide Pictures

It is frequently necessary in cold weather, as reported in *Das Atelier des Photographien*, to warm up the toning baths to a normal condition, in order to bring out the expected tones. This holds true not only for gold toning of pictures on different papers, but also for the well known iron blue and urantone of silver-bromide pictures and diapositinem. Thus for the colors of the common ironblue-toning bath:

1% solution of brown or green citric acid ironoxyammiak	50 cc.
1% solution of red bloodlye salt.....	50 cc.
Water	100 cc.
5% solution of citric acid.....	10 cc.

You may notice that pictures in a slightly warm solution frequently exhibit a blue color with a marked greenish tint. This nuance or shade is not objectionable, but it is evidence that these tones when left standing in the air and light for a few days, will undergo other changes. The green tint disappears and the general tone takes on a bluish gray color. The normal temperature for the blue tone bath should be from 18 to 20 degrees Centigrade.

With the durability of blue toning at least after the simple directions thus given, it is in general a help. We know that these light colored pictures do not stand the light well. The dark tones more like the indigos appear to resist discoloration best. For diapositive projection it is especially to be observed that for mounting the picture sheets must be well dried.

Old Platin Paper

According to *Photo Woche* old platino papers which have been left in their original wrappers, can be used after some years, if you add the developing solution of calcium bichromate to them, and also use the cold developing paper in addition to heat developing paper.

A Spray of Finely Divided Metals

The ingenious Herr M. U. Schopp, of Zurich, Switzerland, says the *Photographische Korrespondency* of Leipsig, has discovered a process by which metals divided into particles as fine as dust can be sprayed at will by means of steam or gas or other mechanical atomizer upon any kind of a surface. For the application of his process a metallic-spray prostol is used in which a metallic wire is pushed forward and on its outer end the metal is melted into particles in a flame. A blast of air breaks up the drops simultaneously into a fine spray which spreads uniformly over the surface. Copper, nickel, steel, platinum, all metals difficult to melt are thus easily broken into particles. Their use in this manner for plating, for engraving, for silvering vessels, and the like is intended to be a cheap substitute for electroplating.

Luminographie

This is a new name given to a new process devised, says *Photographischen Correspondenz*, by Professor Dr. L. Vanio and Captain of Artillery D. J. Peter. Luminographie is

a method of copying pictures, drawings, and similar things by means of the Luminophore. In lieu of the usual sources of light, you apply colored carbon paper to the back of the silverbrom paper that is placed on the picture to be copied.

Then the wider lines are lightly affected by the zinc, aluminum, pine paper, and similar materials which absorb the light upon the silverbrom sheets.

Photoetching is said to forestall luminography, since in both processes, the absorption of light is the essential thing. Indeed, this effect, according to the latest experience, is much greater with colored lights. Phosphorescence may be cited as an example.

Preparation of Photographic Paper

In a French patent, according to *Union Photographique Industrielle,* just granted, paper is immersed in a solution of a soluble chloride, bromide, or iodide, is then dried and treated with a solution of silver nitrate. Then instead of the universal method of finishing with gelatin or starch, the paper is treated with a reagent which will close the pores, such as a solution of sulphuric acid, caustic soda, or cupric iodide in ammonia. Then the paper is neutralized and washed. The tones of the prints which are thus made are claimed to be more brilliant, stronger, and durable than those obtained on the usual papers.

Another French patent describes cellulerd solution of six parts mixed with shellac three parts, and camphor one part dissolved in ten parts of amyl alcohol as an excellent protective covering for photographic films and the like.

Action of Peroxide on Gelatin

In *Photographien Korrespondenz,* Dr. Lüppo-Cramer states that when sheets of pure gelatin are subjected to the influence of the vapor peroxide of hydrogen, and are then washed for some hours to be treated later with metolsilver intensifier, the parts where the vapors have touched the gelatin, become quickly developed. The latent image is not destroyed by drying after washing, nor is it destroyed by thiosulphate. The vapors of oil of turpentine act similarly to hydrogen peroxide.

Mr. J. H. Christensen of Denmark has just obtained patent rights for multicolored screens which are specially adapted for use in photography. In preparing multicolored screens, it is found that the solution of commercial gum dammer in turpentine oil emulsifies readily, but the colored fragments are surrounded by a thick, irregular layer of gum. This may be avoided by adding to the gum or to the turpentine oil a very little soluble acid. These acids should be soluble in the solution of the colloid, such acids as acetic, benzoic, salicylic, or oleic.

If you use many of such emulsions, the best results are obtained by making all of them of similar acidity of alkalinity. The emulsions then that are too acid may be treated with ammonia and those which are too alkaline may be mixed with boric acid.

If it is desired to cover the colored particles which make up the screen with a film of, say, gelatin which contains substances that react with the colored fragments, the covering material—gelatin or what not—may be saturated with something like tannin.

More Light on Platinum Toning

Messrs. A. and L. Lumiere in the *Bull Soc Franc Photo* record that the action of various acids in platinum toning has been investigated both with respect to the color of the image and the durability of the toning baths. Evidently the potassium platin chloride baths made with sulphuric, hydrochloric, phosphoric, nitric and lactic acids all have in light and darkness good keeping properties.

However, boric, acetic, tartaric, and oxalic acids not to forget resorcinol and the like, all yield short-lived baths. Formic acid reduces the platinum salt entirely and very quickly. As for the tones of the prints, the former series of well-keeping acids give excellent blacks and pure whites, and of all of these Messrs. Lumiere prefer sulphuric to phorphoric acid because of the certainty of its strength.

Sulphide Toning

Monsieur J. Desolme in the same bulletin note that bromide prints may be toned to sepia shades in the cold by means of solutions of alkali polysulphides, sodium, bi, tri, and tetra sulphide all yield good results in the order named. These are prepared by boiling 6 and 12 grammes respectively of sulphur with a solution of 50 grams of crystalized sodium sulphide in 50 c.c. of water.

The toning bath is prepared by making up each of the resulting solutions to 1000 cc.—one quart. Toning is finished in 30 minutes or so. The efficiency of certain patented toning solutions is due to the sodium bisulphide and not to colloidal sulphur. It is proved that the oxidation of sodium sulphide solution by hydrogen peroxide yields the bisulphide, and not free sulphur. The bisulphide is soon oxidized in turn to thiosulphate.

Eliminate Ultra-Violet Rays

Dr. J. H. Smith in a French patent comes with a compensation process for differences of sensitiveness of the dyestuffs used in the bleach-out process of color photography. He says it is customary to use screens of the color that is the complement to the print required. Even this process does not give good results because of the presence of ultra-violet

rays and blue-violet rays in the field of light employed.

He therefore proposes to absorb the ultra-violet rays by an elimination method. To do this he uses a yellow screen to absorb the blue violet rays, and most important napthol green, quinine, or esculin sulphate to filter out the ultra-violet rays.

This will be a great help in photographing living microbes and animalcules for educational moving picture films. The reason these have never been honestly reproduced is because the ultra-violet rays kill these organisms.

Oxidation of Quinol and Sulphite

Mr. J. Pinnow in the *Zeitschrift für Elektrochemisch* describes the simultaneous oxidation of quinol and sulphite by atmospheric oxygen. He says that even very minute amounts of sodium quinoldisulphonate have a pronounced protective influence upon sodium sulphite solutions from the effects of atmospheric oxidation. This effect is also caused by glycerin. The two substances can assist each other in this way. In the presence of copper ions, the rate of oxidation of sulphite and of sulphite quinol solutions is considerably increased, and in mixed solutions the presence of the copper ion produced a change in the ratio of the sulphite oxidized to the quinol that is oxidized.

This reaction is in the direction of greater oxidation of quinol. The influence of the copper salt on the rate of oxidation may be counterbalanced by the use of sodium quinoldisulphonate. The ratio, however, of sulphite to quinol oxidized is not restored to its original value. Indeed, this ratio as well as the speed of oxidation is dependent more or less on the hydroxyl-ion concentration of the solution. This in turn influences during oxidation by the reduction in quinol and the formation of quinol monosulphonate.

The improvement in developing qualities which is undergone by a sulphite-quinol solution on keeping is not due to the accumulation of sulphite by complex formation, but it is due to the presence of quinolmonosulphonate.

NEW BOOKS

Those who have had the advantage of reading that excellent printers' magazine, "The Inland Printer," will recall the series of articles on "Half-Tone and Photomechanical Processes," by Stephen H. Horgan, which were printed in its pages. Mr. Horgan occupied the position of expert in his subjects to whom the magazine's readers could apply for information, and with whom they could exchange views and opinions. The result of an experience of eighteen years' work in this capacity is now embodied in a stout volume entitled, "Horgan's Half-Tone and Photomechanical Processes," and published by The Inland Printer Co. of Chicago.

If ever there were a so-called "practical" book, this book certainly deserves the phrase. Mr. Horgan is nothing if he is not practical. His aim is to give not merely an outline of the methods of the different photomechanical processes, but so to present the details of these processes that the student shall thoroughly understand them, and be in a position to apply them in actual work. The result is a work which is indispensable both to the photo-engraver and the manufacturer of books and periodicals.

The subjects dealt with by Mr. Horgan include: Photolithography applied to plano-graphic printing from zinc, aluminum, stone, on the offset press; the Collotype method of printing from gelatine in the lithographic manner; photogravure and photo-engraving; the half-tone process; Photoplanography, being the practical application of photo-engraving processes to the offset press; and Rotary photogravure, or the process of engraving of a photogravure on a cylinder so that a web of paper can be printed from at a high speed.

The above list of subjects shows at once that Mr. Horgan's book is abreast of the latest inventions, and an examination of the book itself proves this conclusively. Offset printing is the talk of the hour in the printing world. We are told that this is to be the method of the future. Mr. Horgan makes a few sensible remarks on this subject which it will be well for both engravers and printers to take to heart:

"The offset press will occupy the field it is intended for when there is a better understanding between the photo-engraver and the offset pressman as to what are the requirements and the limitations of each. Photolithography will answer all the requirements of the offset press when it is properly worked, though there are few process workers that know anything about it."

The process we are specially interested in, however, is that of rotary photogravure. This process seems to us destined for a great future. We are of opinion that the day is not at all far off when all art magazines, and we include such as are devoted to photography, will be printed after this process. The results in rotary photogravure printing we have seen are so excellent that but little further experimentation is necessary in order to perfect the process, and make it applicable even to the reproduction of photogravures in newspapers.

Mr. Horgan's book is fairly well illustrated with examples of the various processes, but the general "get up" of the volume is wretched. Paper and presswork are of the poorest quality, and the "layout" of the type page would discredit a one-man job shop. We cannot, we regret to say, compliment The Inland Printer on its taste in bookmaking, however highly we value Mr. Horgan's book for its contents.

PROFESSOR Dow's book on "Composition" (Doubleday, Page & Co.) reaches us in a revised edition and enlarged seventh edition—a handsome and well-printed quarto. Originally published in 1899 it has, judging from its long and healthy life, supplied a real want. The book is intended to teach the principles of art by "the putting together of lines, masses, and colors to make a harmony."

Now just what harmony is we are not told. The author is careful to inform us that "only through the appreciation does the composer recognize a harmony. Hence," he goes on to say, "the effort to find art—structure resolves itself into a development of appreciation."

But appreciation of what? Harmony? But that is just what we want to know. How do we recognize or appreciate harmony? How are we to know when a certain putting together of lines, masses and colors is a harmony? If by appreciation, then it would seem as if the appreciation of harmony were an innate quality of the human mind. And this, seemingly, is what Mr. Dow thinks, for he says, "this faculty is a common human possession."

But the human mind is capable of functioning as appreciation in ways other than artistic. Is there, then, a special functioning power which is concerned with harmony alone? If there is, then, surely, an analysis of it should give us a knowledge of harmony as applied to art; and this analysis is not given. As a matter of fact, however, harmony is a matter more of experience than of psychology. We know no more of harmony than we have found in nature, and what we call harmony is but what answers to certain impressions we have decided to call harmonious. Harmony like taste is not something to dogmatize about. If it were, there would be no place for the genius either in painting or music or any of the fine arts—and there would be no evolution in taste.

The matter is of special importance to the photographer who in an approaching nature meets her as a vast and overpowering conglomerate. The photographer must sift, so to speak, what, in nature, shall express his emotion and feeling in the form of a harmony. How shall he guide himself in this work of selection? That is the vital question for him. Is he to learn the laws which underlie harmony? Then what are these laws? Is he to cultivate his appreciation by a study of composition? But how is a study of composition possible without a knowledge of the laws of harmony? How is he to build up lines, masses and colors into a harmony when he has only his own uncultured appreciation to help him? He is running round and round a vicioius circle.

Surely, there must be some living way to study composition other than by means of a grammar of harmony. Grammars are, of course, necessary. We cannot do without them for the purpose of composition in language and, in a less degree, for composition in music; but we question their necessity for composition in painting. We are of opinion it would be better for the artist if we permitted him to have his own way with nature, or if we permitted nature to let her have her way with him; and a general experience of grammar-made or academic art confirms us in this opinion. The quality that makes an artist is the quality that compels him to transcend grammars and rules. If the study of composition can call forth that quality in him, then the day of artist-making is arrived. But we doubt that this end can be achieved by such a study.

The photographer, therefore, will do wisely to put himself in relation with nature uninfluenced by grammars of harmony. Let him give free play to his faculty of appreciation rather than hamper it by rules. He will thus cultivate his power to select; and, after all is said and done, it is the power to select that marks any artist.

At the same time, in saying what we have said, we do not wish to depreciate the definite value of Professor Dow's carefully elaborated treatise. It is an excellent handbook for beginners, and should be very helpful to teachers in elementary schools where children are taught the use of pencil and brush.

KEEP your specimen frames clean, and change your specimens whenever they show the least sign of fading. Have no dirty unframed prints and cockling cards lying about.

BE cheerful and bright before your sitters, and be active. Nothing is so depressing to a subject as a slouchy, careless, swaggering operator.

CORRESPONDENCE

Correspondents should never write on both sides of the paper. No notice is taken of communications unless the names and addresses of the writers are given.
We do not undertake responsibility for the opinions expressed by our correspondents.

EDITOR, WILSON'S PHOTOGRAPHIC MAGAZINE:

If the spirit of my good friend Edward L. Wilson is still able to see those things in which he was interested during life, what a joy must be his to see "Wilson's" take on a new dress and higher purpose to take its former place as the leading photographic journal in America.

Its highly artistic cover, like a face, but expresses the high character within and a study of the illustrations and the matter justifies the expectations formed by the cover.

The illustration, "Plate I, by Hubert Bros., Buffalo," appealed to the writer, as it did to everyone to whom he has shown it, as one of the triumphs of American photography. Amazed was I later to find it so harshly commented upon by that delightful critic Sidney Allen and to mildly protest, in my feeble English, is the purpose of this brief note, Mr. Editor.

Let us take for example portion of a paragraph of Mr. Allen's criticism and let us suppose it is a painting he is tearing apart instead of a photograph and let us see how the following would sound:

"Yet it is far from being an accurate interpretation. Of course, we realize at once, that the scene was not taken in a theatre, and that the procession, the light effect on the stage, and the curved line of the railing are faked," etc.

I don't like the word "faking" (its real meaning is cheating, swindling). What Mr. Allen meant, it is to be hoped, is, taking liberties with the original lighting and shadows in the negative by retouching. And why is this not only permissible, when artistically done, as in this instance, but highly commendable? It proves the artist in the photographer and should be encouraged instead of condemned.

Suppose we should say of a painting: "It was not taken in a theatre but in the artist's studio." Would that injure it as a picture? Would it not prove the greatness of the artist? All the great paintings of the scenes from Bethlehem to Calvary were not made in Judea.

From the writer's' point of view, any means a photographer uses to produce an artistic picture from a photograph is legitimate and should be encouraged. Let us have from that brilliant pen of Mr. Allen's more of his splendid constructive, not destructive criticism.

Sincerely yours,
S. H. HORGAN.

Orange, N J.

TO ALL PHOTOGRAPHERS

EDITOR WILSON'S PHOTOGRAPHIC MAGAZINE:

The educational feature of the National Convention that is to be held in Kansas City, July 21st to 26th will be a practical studio in actual operation. Every department will be fully equipped with the latest and best apparatus and a continuous demonstration will be conducted by various competent workmen selected by the President.

The Ladies' Federation have been requested to select lady reception roomists of national reputation who will give their best methods of handling patrons from their entrance into the studio until their departure.

There isn't the least doubt that the best and most approved way of educating is through a practical demonstration. Following this thought, our president is responsible for the novel idea of erecting a studio within the convention hall and have it to be in actual operation.

No one can for a moment question the great good from an educational standpoint that it will accomplish for those in need of help in any department. Everyman or woman in the photographic profession should be identified not only with his or her State association and attend the conventions held by it, but they should become a member of the National body and secure the great advantage that is to be gotten by a regular yearly attendance upon its conventions.

The Executive Board have gone to a great expense and a great deal of trouble to make this the banner convention of all previous ones, and the vast amount of new information that will be imparted practically will more than repay any one for the time and expense incurred in making the trip to Kansas City.

They have honored me with the most pleasant duty in connection with this studio, which is receiving the visitors, and I wish to assure all that it will afford me a great pleasure to renew the many friendships and acquaintances formed at any previous conventions and also meet and make new friends among those whom I have never before met. Will also state that I will be only to glad to render any assistance that is in my power.

Looking forward with anticipation of much pleasure and profit to the coming meeting at Kansas City, I am,

Fraternally yours,
DADDY LIVELY.

May 19th, 1913.

EDITOR, WILSON'S PHOTOGRAPHIC MAGAZINE:

In response to the numerous demands which we have received from our dealers, and to take care of the needs of our sales and advertising departments for prints, enlargements, etc., we have installed a modern and up-to-date finishing and enlarging department, which is provided with every facility for turning out work of the highest quality in the shortest possible time. This new department has been established for the convenience of such dealers who have no facilities for doing developing, printing and enlarging for their patrons.

Our general sales policy will be strictly adhered to in the new department, as we will do finishing and enlarging for recognized photo supply dealers only.

Our finishing and enlarging department is in charge of experts who have spent the greater part of their lives in this business and possess the widest experience in the commercial finishing and enlarging. This department is thoroughly systematized to insure the rapid and accurate handling of all orders entrusted to us, and is for the convenience of those of our customers who can profitably take advantage of the unusual facilities which we are able to offer in the field of finishing and enlarging.

All enlargements will be made on double weight Cyko paper with an ⅛-inch white margin all around insuring work in every way superior to the ordinary bromide enlargement, which is commonly offered. Cyko enlargements are equal and often superior to contact prints from the same negative. All enlargements are carefully spotted. Our enlargements are supplied in six styles. Price list on application.

We would appreciate mention of this new department in the next issue of your magazine.

Very truly yours,

BURKE & JAMES, INC.

Chicago, May 13, 1913.

THE NEW COLD LIGHT PROCESS IN FRANCE.

EDITOR, WILSON'S PHOTOGRAPHIC MAGAZINE:

Many an American visitor to Paris may remember the "Maison Gerschel," 5, rue de Prony.

Hidden away, it seems, by its peculiar and distinguished simplicity of construction, you pass it, then have a feeling "It ought to be here," and you ask yourself, "Where is it anyway?"

In the parterre-salons: A fascinating arrangement of heavy drapery and gold-glittering gobelins banish the feeling of discomfort and uneasiness which so often comes over one while antichambering, even when one feels sure that the next minute will bring a fulfillment of pleasing expectations.

You have come to have your portrait taken, and the taking of a portrait should always be considered as of real importance, as the photographic portrait tells the best story that can possibly be told of yourself—especially when you are exposed to the inquisitive rays of the new "Cold-Light!"

Ascending with Monsieur Gerschel from the vestibule, vou admire the display of photographs covering the walls of the corridors, telling a logical and fascinating story of the lights and shadows of real life.

On the walls of the broad and comfortably furnished gallery in the great two-story atelier there is a perfect arrangement of pictorial and portrait creations, all whether pleasant or serious, being a reflection of strong reality.

It was a gloomy April day. Suddenly a button was pressed and we were looking down into a gleam of magic light. Mr. Gerschel, addressing me in good English, said:

"The new 'Cold-Light Process' of photographing was given its name by the inventor, Monsieur Dussaud, a well-known French scientist.

"It is a new principle by which you use an ordinary electric incandescent light with a voltage about 1,000 times greater than that ordinarily employed.

"For instance, you have a lamp which gives the light of 25 candles. Raise the light-giving power of such a lamp up to 500 candles, and use fifteen lamps likewise adjusted, which together will give you the light of about 8,000 candles—sufficient to take all the photographs you want to take in broad daylight or in the midst of night!"

"The purpose of Monsieur Dussaud was first to use his system for searchlights in the marine and for kinetoscopic and other projections."

Monsieur Gerschel, who is personally acquainted with Monsieur Dussaud, was the first person to whom occurred the idea of using the Dussaud process in photography and particularly for the taking of portraits. His first experiments have been in the line of theatrical photographing. There has long been need of a better system of throwing light upon such subjects as theatrical scenery and acting groups, large gatherings of people, dinner parties and so forth. The dangers of flashlight have long been known.

The outfit of the apparatus consists of a small reflector made in wood or metal, upon which ten to twenty-five special incandescent lamps are mounted, being branched onto an electric current of a power of about 50 amperes.

At the opening of the New Theatre des Champs Elysées, Monsieur Gerschel took all the scenery in a remarkably short time, as there is no waiting necessary for the passing away of smoke.

Photographing of scenes has not yet been done because an exposure of from ¼ to 2 seconds is required. It is expected that be-

fore long this time will be reduced so that the photographer will be able to take acting groups without the actors being aware of it.

The audiences of the Theatre des Champs Elysées have already been taken by Monsieur Gerschel.

On being questioned as to whether or not there are other professional requirements for the taking of photos by means of the new cold light, Monsieur Gerschel said:

"Technicality, which in photography is personality, and an impersonal way of looking at and conceiving the object you have before your camera, are the main points. But shooting at and hitting are not the same thing.

"While shooting on the battleground you must employ energy of intention equivalent to the lives at stake.

"In shooting off the camera you should be able to make your model feel certain energies of intention equivalent to the power of the intention equivalent to the power of the natural expression he is able to produce. If you can do that, you do not get a mere picture, but a photograph which will stand every test and which will tell the best story of your model that can be told."

R. H. SCHUMACHER.

Paris, April 22, 1913.

EDITOR, WILSON'S PHOTOGRAPHIC MAGAZINE:

Once again the time has arrived, to think about the annual conventions. The big show will begin this year at Winona Lake, Ind., Monday morning at nine thirty, July seventh to tenth inclusive.

The following will be carried out to the letter:

Monday, July seventh—Monday morning and afternoon, arrangement of exhibit; Monday evening, eight o'clock, informal reception.

Tuesday, July eighth—Music from nine to nine-thirty; business session, 9.30, president's report, secretary's report, treasurer's report, reading of communication, new business, special announcements, appointing of committees. Following the business session, plate demonstration under the skylight, Hammer Dry Plate Co. Afternoon, July eighth, lens talk, 1.20 to 2.30, Theo. Johnson, of the Sweet Wallach Co., of Chicago, Ill. Informal talk, 2.20-3.30, "The How and Why of Color Filters and Plates in Commercial Photography," by Prof. R. J. Wallace, formerly of the University of Chicago, and now director of the research laboratory of the Cramer Dry Plate Co.; from 3.30 to 4.30, demonstration under the skylight and working in backgrounds; 4.30, jump in the lake. Evening session, eight o'clock, Chas. L. Lews, "Criticism of Pictures on Modern Photographic Principles."

Wednesday, July ninth—Business session, 9 to 10, unfinished business; 10 to 11, "Commercial Photography," by Alex J. E. Copeland; 11 to 12, demonstration under the skylight, by the Central Dry Plate Co. Wednesday afternoon from 1 to 2, meet at the hall to meet manufacturers and dealers; from 2 till 6, Old Fation Hoosier Picnic. Hall will be open to public from 2 till 4, in charge of the trustees; Wednesday evening, entertainment at the Auditorium.

Thursday Morning, July tenth—Orchestra 9 to 9.30; business session, 9.30 to 10; 10 o'clock, Wratten & Wainwright, "Color Value and Use of Color Screens;" 11 o'clock, Cramer Dry Plate Co. demonstration. Afternoon session, 1.30-2.30, "Judging Pictures," by Lews; suggestions; 2.30 o'clock, demonstration by Seeds Dry Plate Co.; 3 o'clock, business session; election of officers; from 4 till 5, special work. Evening session, 8 o'clock, report of judges, awarding of prizes.

This completes a program that to my mind will prove to be the best that the Indiana boys ever pulled off at Winona Lake or anywhere else.

If anyone comes to Winona this year and does not get his money's worth, I can't imagine what he wants for his money.

Here is the list of awards given this year:

The diamond medal will be given this year again, and from all reports, there is going to be a hot time over this prize. This contest is open to the world, Indiana excepted.

Condition of awards—No picture shall be passed upon for this honor, that is not properly titled. Publication and use of pictures shall be under the control of the trustees. Pictures shall be passed upon by two distinct sets of judges, one selecting a number of three to five pictures, the other select the one. Any face claims made by the winner of the medal, forfeits all honors, and at the request of the trustees, the same shall be surrendered. All pictures in a special class, if considered of sufficient merit, will be selected to adorn the walls of the Daguerre Memorial Institute, and will be awarded a certificate.

Portrait Class for Indiana Photographers —First award, gold medal; second award, silver medal; third award, bronze medal.

Condition of awards—All exhibitors must be members of the association. All entries must consist of four pictures, size optional. Pictures shall be from negatives made since last convention.

Silver loving cup for the best exhibit of enlargements. Four in number, size to be ten inches or larger. Contact prints must accompany each exhibit.

Commercial Class—Exhibit to consist of four pictures, eight inches or larger, to consist of architectural construction, machinery, etc. Awards to all exhibits receiving a rating of 80% or more, a certificate of excellence.

Pictorial Class—Open to any subject, four pictures, any size. In this class you can show us your pictorial conceptions. All pictures receiving a rating of 80% or more, to receive a certificate.

Wollensak Cup—To be given for the best picture exhibited, made with a Wollensak lens.

General Directions—Entry is free to all exhibits. All exhibits must be addressed to S. A. Hockett, Winona Lake, Ind., care of Indiana Photographers' Association. Express prepaid, and must reach him not later than July seventh at noon. All pictures arriving later than that date, will be hung in the complimentary class.

Now, brother photographers, read the above very carefully, especially the last paragraph. Be sure to send your pictures in plenty of time, don't bring them, because you don't know when you are going to get there.

If you have not paid your dues, do that at once, for the treasurer will have other work to do that cannot be taken care of now, so don't delay. Send your cheque at once to C. A. Shubart, Princeton, Ind.

For any other information, write your humble servant and you will get the goods right off the bat.

OTTO SELLERS, *Secretary*.

A NEW CAMERA MARVEL

EDITOR, WILSON'S PHOTOGRAPHIC MAGAZINE:

Professor R. W. Wood, the ingenious physicist of John Hopkins, who has so many great inventions to his credit, now makes his bow to the photographic world, with the most simple, yet most practical of them all. Upon his belt of achievements, there already hangs color photography; the bizarre fish-eye camera which takes photographs through half a circle in all directions, just as a fish sees; ultra-violet and infra-red ray photography; a book of nonsense verse, the equal of Alice in Wonderland; the physics of boomerang throwing; all these and many more dangle among Professor Wood's trophies.

Observing the difficulty that all photographers have with ground glass shutters in their kodaks, and yard upon yard of cloth necessary to cover their heads while focusing a camera, Dr. Wood set about finding some scheme or device by which he could do away with all of this jungle of obstructive paraphernalia. What could be done?

First, perhaps, he thought of inventing an entire new camera, or mayhap a cabinet in which the operator could sit. Then again, his skill and imagination may have suggested a new kind of film, plate, or lens. Nothing is too difficult or beyond the application of so practical a savant as Professor Wood.

Be all this at is may, he finally solved the whole situation in the simplest possible way. Instead of devising a new photographic apparatus as a whole, he is now able to take pictures without a hood or ground glass, merely by inserting a kind of semi-translucent, block crystalline plate of near-glass, in the back part of the camera.

Briefly, instead of the ground glass shutter and the cloth that is now always necessary before you can successfully focus the machine, Dr. Wood inserts his newly invented black imitation glass plate, and presto, the image of the scene is always before you ready to be focused back and forth as much as you please, in the broad light of day.

It is said that several large kodak and camera manufacturers are bidding against each other to obtain from the Johns Hopkins physicist, control of this little device. So important, valuable, and revolutionary do they regard it, that it is believed the company that obtains control of it, will actually have a commercial monopoly of photographic apparatus for many years to come. Naturally, Dr. Wood, who considers it unethical and unscientific to patent anything, is loth to give the intrinsic details to the public. These will be announced first to the scientific world whether he sells his device or not.

DR. LEONARD KEENE HIRSHBERG.
Johns Hopkins.

REPORTS OF SOCIETIES

THE COMMERCIAL FEDERATION, P. A. OF A. was organized at the 1912 Convention. Its object is Mutual Help for the Craftsman Photographer, and Improvement in General and Commercial Photography.

Members.—Any Active Member of the P. A. of A. engaged in General Photography, either partly or exclusively, is eligible.

Associate Members.—Employees, Manufacturers and Dealers and their representatives, are eligible.

Annual Membership dues $1.00.

Copies of the Constitution and By-Laws furnished on application to the Secretary.

Officers and Executive Committee.—President, R. W. Johnston, Pittsburgh; 1st Vice-

President, Chas. E. Kaufmann, Chicago; 2nd Vice-President, Fred Booth, Toronto; Secretary, E. S. Caywood, 1309 Walnut Street, Philadelphia; Treasurer, O. W. Cole, Danville, Va.

My Dear Fellow Craftsman:

The spirit of the 1913 Convention at Kansas City is co-operation among the members of the P. A. of A. and especially among those doing general photography or work different from portraiture. At this convention we shall have an exhibit limited to five pictures from each member. There will be one business meeting, three shop talks and one under the light session.

The one feature on which your Board wants your special co-operation is for *each* member to send five or more lantern slides so that we can show on the screen some special picture, equipment, plan, system, hobby or invention that will be instructive to the general worker in photography. Begin *to-day*, choose your subjects and get the slides done at once, this simple request should be enough to have immediate attention on your part. For every idea you give us we want you to get a hundred in return for it is up to us all to make good on this, our first convention. A cash prize will be given to the best set of five slides that are voted to be of the most real benefit to the general photographer.

There has been a strong demand among men claiming artistic accomplishments in work different than portraiture to be recognized at these conventions and now is our opportunity and your Board of Officers desire contribution for exhibits under the following classifications:

Architecture, Commercial, Genre, Illustrative, Landscape, Press and Technical. Under Technical should also come Microscopical, Astronomical, X-Ray and Surgical.

Five pictures shall be the limit for exhibition. Panoramic pictures should not exceed 50 inches in length, all contact unless entered in enlargement class. We suggest no framing except in the Genre and Illustrative Classes.

Now—double your efforts to make every session fruitful and the exhibits worthy of approval. Our Secretary will follow with a list of questions. Keep your C. F. communications on file for reference.

Yours fraternally,

R. W. Johnston.

Address all correspondence to the Secretary.

The P. P. S. of Pa. Convention for 1914 at Scranton, Pa.

The Big One Dollar Convention

On May 1st, the New State Board met at Scranton for organization and also to receive the books and papers from the outgoing board. The meeting was called to order at 9 a. m. sharp at Pres. Schriever's studio. A formal organization took place after which a visit was made by the Board for Inspection of the Convention Hall, which was one of the largest and best ever, and at noon the Board was given an automobile ride around the city and lake, winding up at Hotel Casey, where luncheon was partaken of, after which they returned to Pres. Schriever's studio and put in a solid afternoon in thrashing out plans for the coming Big Scranton Dollar Convention.

There was a short joint session of the representatives, of the manufacturers, and of the committee, these men having been previously invited to be present and give the committee any suggestions they might have in mind for to make the Convention the most instructive ever. Many splendid ideas were brought forward, and the joint meeting proved very valuable and a big success.

The Board is now at work upon new ideas in reference to educational features and classification of portrait exhibits which will be announced later. One of the most important features of the committee was the adoption of the novel means for the building up of a large permanent membership. The plan will be carried out by the help of the traveling salesmen and demonstrators. They will be provided with membership certificate blanks and will call upon every photographer within their jurisdiction.

One of the big features of the meeting was the splendid Convention Booster Smoker given to the board and members of the Anthracite Section, given in the evening at the Hotel Jermyn. The Anthracite boys certainly did themselves proud and if this smoker is a forerunner of their hospitality, the P. P. S. of Pa. members who will attend the 1914 Convention, BELIEVE ME, they will give them the time of their lives.

The evening was spent in feasting over a splendid dinner with the boys all bedecked in miner's paraphernalia intermingled with songs and speeches which finally wound up at a late hour after Jack Horgan, one of the Anthracite boys made a flash light group of all assembled.

J. B. Schriever, president of the Professional Photographers' Society of Pennsylvania, has called a meeting of the State executive committee to begin preparations for making the State convention to be held here in March, 1914, the biggest affair of its kind in the history of the society. This plan was favored by the recent convention in Harrisburg, and promises to make the society a bigger factor than ever before in the photographic business.

The members of the State executive committee are: President, J. B. Schriever, of Scranton; first vice-president, H. B. Kellogg, of Harrisburg; second vice-president, E. W. Brown, of Beaver; treasurer, W. I. Golden,

of Reading; secretary, William McKay, of South Bethlehem. The retiring president, Ryland Phillips, of Philadelphia, and retiring vice-president, George M. Harris, of Washington, D. C., will also attend the executive session.

There are 1,260 photographers in this State and it is the aim of the executive committee to have at least 1,000 of them in Scranton for the convention next March. A membership campaign with 1,000 as its goal has been inaugurated by the president and the membership is growing daily. The convention plans provide for an exhibit of at least 2,000 photographs and several of the most widely known experts in the country will be here to judge the exhibits and give ratings to all entries. This will be the first time ratings will be made in this country or in any country of the world except Germany.

The anthracite section of the society is one of the most enthusiastic in the State. It has an active membership of sixty photographers between Carbondale and Hazleton.

POINTERS ON DEVELOPERS

"Don't never prophesy onless you know!" — *Lowell.*

Studio Light.—This enterprising little magazine of information for the profession, comes to our table looking brighter and more attractive than ever. Carefully and ably edited; printed on the best paper and containing excellent examples of representative work, the reader will always find something worth while in its pages. If you have not seen a recent copy write The Eastman Co. at Rochester.

One of the most attractive and complete catalogues that has reached us is that exploiting the well known Cefex Cameras of Heinrich Erneman of Dresden. Max Meyer, 18 West 27th St., New York City, is the selling agent in the United States and will gladly furnish this list on application.

There are two ways in photography; one is to hunt around and make business, the other is to wait for business. Every successful man can say which is best.

The G. Cramer Dry Plate Co., of St. Louis, Mo., is filling an order for Curtis & Miller, well known photographers of Seattle, Washington, for transparencies of unusual size. The plates are 75 in number, 42 x 60 inches in size and of plate glass. The transparencies to be made upon them will be used for advertising purposes, and the plates alone are understood to cost $300 a dozen. The finished transparencies will be put on exhibition in the principal cities of the United States.

"A Short Talk on Negative Making," in its ninth edition, is just from the press. Not only does it tell things of value on the production of negatives, but it introduces you to Hammer Dry Plates. Drop a postal in the mail box to-day for the Hammer booklet. Address the Hammer Dry Plate Company, Ohio Avenue and Miami Street, St. Louis, Mo.

The Taylor-Hobson Company, 1133 Broadway, New York, have just issued a new and attractive catalogue extolling the qualities of the famous Cooke lenses. Among the many things mentioned is the Cooke Series II, with working aperture of F. 4.5. The Cooke lenses are adaptable to process work, telephoto work, or for anything that a man would want under the category of heaven. The Cooke Telar lenses are now on the market, and they can be used with Graflex and other cameras to obtain large images of distant objects. Another lens mentioned is the Cooke Achromatic Portrait with a working aperture of F. 7.5. This is the lens that was on the market some years ago, but withdrawn. A copy of this catalogue will be sent upon request.

For the convenience of their Eastern customers, Burke & James, Inc., maintains an office and salesroom at 225 Fifth Ave., New York City.

A complete line of samples is always on display and dealers are cordially invited to visit these offices while in New York.

Facilities are provided also for the demonstration of such products as customers are interested in.

While the products of the Company are sold through dealers only, photographers, both amateur and professional, are always

welcome at the company's offices, where they may personally examine new goods or other products of interest.

At the same address Voigtlander & Sohn carry a complete stock of their famous Anastigmat Lenses. Dealers in the Eastern territory will be promptly served by sending their order to the New York branch.

WITH the increasing popularity of home portraiture, the demand arises for convenient apparatus which the photographer can pack in a very small space and carry into the home of the customer. One of the most important things is a good reflector, and the most convenient piece of apparatus which has come to our notice is the Eastman Home Portrait Reflector. It consists of a telescoping stand, which is about the size of the ordinary music rack when folded, and measures 8 feet 6 inches when extended. The reflector is of opaque Holland shade cloth, which will reflect the maximum amount of light. An adjustable rod holds the reflector at any angle, and when not in use, it is rolled up and placed with the carrier in a neat bag. This is an ideal reflector for the home portrait photographer and the reasonable price ($4.50) makes it possible for all.

THE best results in photograph poster and other mounting can only be obtained by the best methods and means. Why not give Higgins Photo Mounter a trial? It has been tried out for years and has an excellence peculiarly its own.

THE fine quality and suitableness of the Seymour Co.'s papers for mounting sketches and prints is well known, and professional or amateur photographers cannot do better than use these exceedingly artistic and tasteful mounts.

ADJUST the light to the subject instead of moving the subject to suit the light. That is the modern way, which makes it so much pleasanter for the customer, and so much easier and quicker for the photographer. The Cooper Hewitt Lamp does it. It can be moved about as readily as a side screen, and gives finer modeling and more transparent shadows than the natural skylight. Send for bulletin T. B. and get the facts.

No plate heretofore produced has been capable of rendering an image of the sun and a landscape in the same exposure, yielding all shadow detail, but the "Hydra" plate takes care of the difficulty with the greatest ease. The most delightful of Nature's beauties, the sun shining on a field, trees or river at dawn, noon or sunset, produce a new form of photographic picture heretofore impossible. "Hydra" plates put these subjects within the reach of every photographer. You'll want the "Hydra" booklet. Send for it direct to Herbert & Huesgen Company, 456 Fourth Avenue, New York City, and mention WILSON'S.

KOEHLER'S CAMERA EXCHANGE, 7 East 14th St., New York City, has sent us their new "Bargain List," which seems to contain every thing a man interested in photography would want, and it would be an advantage to our readers to send for a copy.

THE Editorial Management of *The Photographic Times*, in compliance with numerous requests, has decided to revive the amateur pictorial contests which were so popular with the readers of that magazine in previous years.

The first contest wil be closed early in the fall, so as to be announced in the November Number with reproductions of the prize winners and other notable pictures of the contest. The prizes and conditions will be similar to heretofore, as follows:

First Prize, $10.00 Second Prize, $5.00
Third Prize, $3.00.

And three honorable mention awards of a year's subscription to *The Photographic Times*.

For particulars refer to the announcement on another page of this issue.

THE condition of your chemicals in hot weather is of the greatest importance. Eastman tested chemicals are of certain strength action and purity, are packed in air tight, damp proof containers and are stamped with the mark of approval of their chemical experts. Their very interest in your results warrants great painstaking care in the preparation of their chemicals for your use and the cost no more.

GEO. MURPHY, INC., the American agents advise us that the Ross Company have just increased their large assortment of lenses by the addition of two new lines: the Wide Angle Anastigmat Lens for wide-angle effects, and the Ross Convertible Lens. This is a single lens at F. 12.5, and a combined convertible lens, using single series of different foci. They also report an increasing interest and demand for the "Telecentric" Lens introduced some months ago. C. O. Lee, Manager Alamo Camera Co., writes:

"I have tried the Ross 'Telecentric' Lens, 17 inch focus, pretty thoroughly, even on as high speed as 1/1100 of second on Press Graflex, and without a doubt it completely fills a long felt want.

With my eight years of photographic experience, and about three years of newspaper photography, I believe it to be the most wonderful lens I have ever seen. * * *"

BY WINDOW & GROVE ELLEN TERRY COPYRIGHT

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. L JULY, 1913 No. 7

THE VALUE OF PANCHROMATIC PLATES

BY E. J. WALL, F.R.P.S.

THE average photographer, is, I think, inclined to be somewhat conservative and loth to change from his customary practice. Further than that, like everyone else who has practiced photography, he has become so saturated with the totally erroneous color-rendering of the ordinary plate that he is inclined to consider a really truthful rendering as false.

If we compare the sensitiveness of the eye with that of the ordinary plate the falseness of the color rendering becomes at once apparent. The plate sees nothing but ultra-violet, violet and blue; the eye practically nothing but blue, green, yellow and red, with yellow as the brightest color; that is to say, those colors which are visually bright, appear black to the ordinary plate.

Vogel's discovery of the orthochromatizing of plates placed a greater power in our hands, as by the use of dyes the silver salts are enabled to see the visually bright colors to some extent; but the orthochromatic or isochromatic plate is practically sensitive only to yellow-green and green in addition to its primary blue-violet vision, and even then the preponderance of the latter is well-known, for unfortunately there is no known method of making an emulsion as highly sensitive to the less refrangible colors as it is to the other end of the spectrum.

Till the discovery of the red sensitizing properties of ethyl-red by Miethe and Traube and of the isocyanines by Koenig, real red sensitiveness was practically only a laboratory and not a commercial success. With the introduction of these dyes, orthochrome, pinachrome, pinacyanol, isocol, etc., a really red sensitive emulsion, however, became an accomplished fact. There are two methods by which an emulsion can be sensitized, either by the addition of the dye to the emulsion in the process of manufacture, or by bathing the coated and dried plate in a solution of the dye, and the latter is far and away the most effective—why,

no one at present has given a satisfactory explanation.

The process of color-sensitizing a plate by bathing is not a difficult one, when one learns to work in the dark. I find it as easy to sensitize a plate, fill a plate-holder and develop in absolute darkness as in the ordinary red light. The only essential is to have everything absolutely in one place, and to know these places, and to provide some audible time-teller, personally I use an English made dark room clock, which rings a bell at the end of every minute; there are American made clocks which will also ring at any given period. It is an open question whether it is worth anyone's while to sensitize their own plates; it requires a series of grooved troughs, or a rack and troughs, a drying cupboard and some experience and it is not cheaper in the end.

The difference between an emulsion-dyed plate and a bathed plate is very marked, not only in speed but also in color-sensitiveness. The former, all at least, that I have tried, are comparatively slow emulsions with decidedly unsatisfactory red sensitiveness, it practically stops at the orange. With the bathing process one can sensitize a clean-working fast plate and obtain a sensitiveness extending right into the red, with very little reduction of the original speed. From actual tests of a commercial emulsion-dyed plate and a Seed 30 home-bathed, the ratio of exposure was 4:1 without a filter, and 8:1 with the latter to obtain the same rendering of red. Now, when one takes into consideration only the necessary increase of exposure, an important matter in studio work, there is no question as to the superiority of the bathed plate. For the following tests the Wratten & Wainwright panchro plates were used, because so far as I know these are the only bathed plates to be obtained in this country, and I have used them ever since their introduction years ago in England. They are obtainable from the Eastman Kodak Co.

Let me here at once dispose of one chimera that has been frequently raised as to bathed plates—namely, the keeping properties of the same. I brought over from England in Jan., 1910, a few W. & W. panchro plates and did not use them till Oct., 1912, then they were tested in a Hurter & Driffield machine and a drop in speed found of 20% and the fog increased to double, but this latter was at once corrected by the addition of bromide to the developer. The drop in color-sensitiveness was found to be in exposure ratios from 1 : 3½ : 3 to 1 : 3½ : 5 to blue, green and red respectively—but it is not likely that plates would be kept unused this length of time in ordinary studio practice. I believe that all bathed plates will keep if ammonia is omitted from the sensitizing bath; ammonia does no harm if the plates are originally clean working, and if they are used within a day or so, otherwise ammonia bathed plates simply go on ripening, the emulsion becomes foggy and when this occurs the drop in speed is phenomenal.

It has already been stated that it is not possible to increase the sensitiveness of the silver salts for the other colors to that for blue-violet, therefore, to reduce the action of the latter we insert somewhere between the object and plate a color screen or filter, which partially absorbs or cuts out the same. Such filters may slightly reduce the extra blue sensitiveness or they may be absolutely corrective, when they become "correct luminosity" screens; they can be obtained commercially, under the name of K3 filters, from Wratten & Wainwright. They are not difficult to make, however, the only apparatus not usually found in a studio being a levelling slab. This can be made from a sheet of plate glass and three levelling screws, which only cost a few cents. Half-inch plate glass is quite thick enough and it may be any convenient size; the levelling screws are preferably screwed down to a board at the corners of a triangle, one at the centre of one side and the others about 2 inches from the ends of the other sides. With a carpenters level the glass can then be levelled in a minute. Thin plate glass, as white as possible, and prefer-

ably not more than one-sixteenth of an inch thick (I have obtained excellent glass of this kind from the Wood Glass Co., Syracuse), should be cut to the required size; thoroughly cleaned, with bichromate of potash and sulphuric acid, with a subsequent polish with tripoli, ammonia and water.

The dyed gelatine is made as follows:

Soft gelatine	6.0 g.	92 grains
Filter Yellow K (1:50 sol.)	17.0 c.c.s.	287 ms.
Distilled water to make	70.0 c.c.s	2 ozs. 222 ms.

I have added the English equivalents as not every one works in the metric system. As regards the gelatine, this should preferably be of photographic quality, but really any good, clear kind may be used, provided it is thoroughly washed before use, and it is just as well to subject any kind to this process. Place it in a graduate or vessel of convenient size, cover with distilled water, stir well, pour off the water and repeat the operation three times, then drain off as much water as possible. The gelatine will in this operation absorb some water and this must be allowed for, as the total bulk of the solution must not exceed the quantity given above. To the damp gelatine add about half an ounce of water and melt in a water bath, make the total bulk up to the above quantity and filter carefully through well washed Canton flannel; as there must be some loss in the filtering it is just as well to make more gelatine solution than is actually required, for the correct absorption of this filter is dependent on an exact quantity of dye on a given area.

The dye is made by the Hoechst Dye Works, other dyes could, of course, be used, but the exact quantity would have to be determined spectrographically and filter yellow K is almost the only dye that satisfactorily absorbs the ultra-violet.

The temperature of the coating room should be at least 70 degrees Fahr., and that of the gelatine solution not less than 125 degrees Fahr.; the graduate used to measure out the dyed gelatine should also be heated. Place three or four glasses on the levelled slab, measure the required quantity of gelatine, pour onto the glass and coax to the edges with the finger tip and allow to set. The exact quanity is 7 ccs. per 100 qcm. or 7.6 minims per square inch. If any difficulty is found at first in distributing this quantity evenly half as much water again may be added, but with a little experience, a warm room, hot glass and graduate there will be no difficulty in working with the smaller quantity.

When the film has well set put it away in a dustless warm place to dry. When well dry a sheet of plain glass should be cemented to it, or this may be dispensed with, but the gelatine is rather apt to become finger marked and scratched in course of use. Cementing the cover glass on is not such a simple matter. Place the filter on three or four sheets of blotting paper on a bench, then pour a long pool of Canada balsam, dissolved in Xylol as used by microscopists, along one side, then lower the cover glass to that side where the balsam is and gently lower it down when it will push the balsam in front of it without any air bells forming. Push a pushpin in to the bench at each side of the glass and place a heavy weight on top, at least three pounds for a 3 x 3 inch filter. After about forty-eight hours the filter can be lfted and clipped by strong bulldog clips and allowed to dry, which may take a week. Then excess of balsam may be scraped off, the edges bound round with black cloth or paper and the glass cleaned with alcohol. Of course, if the cover glass is omitted all this trouble is avoided.

Such a filter will increase the exposure 4½ times with a panchro plate, and it should be used behind the lens and be put in position before focussing.

The first application of the panchro plate to be considered is for the copying of pictures. Comparative examples are of little value unless one knows the subject and therefore I think a color chart more educative and the one I use is painful in coloring but decidedly instructive. It was originally made for testing color screen-plates, and the colors are as follows:

1. Lemon chrome—(blue-violet).
2. Pink—(green).
3. Greenish blue—(red).
4. Red—(blue).
5. Green—(red).
6. Blue—(yellow).

Nos. 1, 2 and 3 are the theoretically correct printing colors, and are pure lemon chrome yellow, a pink that can be most easily matched by blue shade eosin or carmine with a little cobalt blue, and the blue is viridian with a little peacock blue. They are all of the same luminosity or visual brightness. Nos. 4, 5 and 6 are very close matches to the fundamental colors and are a pure deep red, a brilliant emerald green and pure blue. The small circles are the complementary or minus colors given in brackets. Figure 1 shows the result on an ordinary (non-color-sensitive) plate, and figure 2 that on a panchro with a filter, and the difference is so marked that little comment is required. At first sight it may be thought that No. 4, the red is too dark, but visually it is darker than the green but not so dark as the blue, and I think the rendering almost perfect, the only fault is that the yellow is just a trifle too light. From such a chart, which anyone can make for themselves in about half an hour, one can easily deduce the improved rendering to be obtained in the copying of pictures.

Furniture and bric-a-brac may sometimes have to be dealt with and I have chosen a good specimen (of cubist art); it is a workbox with inlays of lignum vitae in all its colors, from the palest yellow to ebony black. Figure 3 is the best result obtainable with an ordinary plate, figure 4 that on a panchro; the former shows all the scratches and much of the beauty of the wood is lost, whilst the other speaks for itself. It is hardly possible that just such another subject would have to be dealt with, for I do not think that such boxes are made now, this is about 90 years old; but it practically includes every shade of color that is likely to be met with in ordinary practice, and in every house some good subject can be found, golden oak, for instance, is a fair test, but mahogany is better.

As regards bric-a-brac figures 5 to 8 will show what can be done. Figures 5 and 7 are on ordinary plates, figures 6 and 8 on panchros; the plate on the left in figure 5 is old Coalport with delicate cream ground, the pictures in the panels in delicate greens, browns and yellows, the small box is a bit of old Worcester with royal blue ground and gold lines, the flowers being roses in pinks and reds. The glass is a very deep rich green and the small plate one of the old familiar willow pattern. In figures 7 and 8 the vase on the left is Kaja ware painted in brick red and gold, the cup and saucer are Coalport again, the coffee pot on the left is Bristol, with gilded top, base and spout and brilliantly colored birds and fruit in reds, greens and yellows. Figures 9 and 10 are taken by one of the students, and the latter shows marked improvement in the rendering of the fair hair and also the flesh tints of the arm; these are all, of course, untouched prints from untouched negatives.

For those who must have some light in the dark room the following formula may be useful for making a safe green-light, which is the only one to be used, and even this with caution. For coating glass:

Gelatine solution, 8%	90 c.c.s.
Naphthol green	1 g.
Filter blue sol. 1%	4 c.c.s.

Allow 7 ccs. to every 100 qcm. (=118 minims to 15.5 sq. ins.). An alternative method is to fix out some spoilt dry plates, wash well and dry and then stain one up in a 2% solution of napthol green, leaving it to soak for at least 15 minutes at 65 deg. F., then rinsing and drying and staining another in 5% solution of tartrazine for the same time; one or two sheets of thick tissue paper should also be stained up in the same solutions and when dry bound up in between the glasses. The result should be a very dim green light, which at the most enables one to see faintly the dishes, and the use of tissue paper gives a diffused light which is much pleasanter and safer. Naturally paper alone can be stained up and if this is done it is easy to add as many sheets as necessary to obtain a

safe light. Actually a green safe light should rather make darkness visible than give light, and in all cases the developing dish must be kept covered.

Personally I prefer to work in darkness and the students have to too, and although not one of them had ever heard of a panchro plate at the beginning of the year they are now working them successfully. The actual method that we adopt is as follows: We have a stool of convenient height, that is placed right opposite the developing dish; to the right and touching the dish is the graduate filled with developer and plenty of it, we use 6 ounces for a 6½ x 8½ plate, as this avoids any possible chance of development marks. On the left of the developing dish is the hypo. The stool one can always find with one's feet or knees and having located this it is only necessary to sit down to know that at once one can place the hand on the developer and dish, it is not necessary to see and with a little practice it is as easy to work in the dark as in the red light; all that it is necessary is to listen to the clock.

The actual developer we use is metol hydroquinone:

Metol	1.75 g.	11.25 grains
Sodium sulphite anh.	25 "	175 "
Sodium carb. anhyd.	18 "	116 "
Hydroquinone	2.5 "	17.5 "
Water to	1000 c.c.s.	16 fld. ozs.

The temperature 65 deg. F. Time of development for portraits and indoor work 3½ minutes, for outdoor work 5 minutes. No bromide is required as the plates work very clean and free from fog. The makers recommend pyro-soda but this I have never tried; they also recommend removing the backing, a rough black pigment, which is very handy by the bye to enable one to tell in the dark which is the film side of the plate, before fixing, but I think this is a mistake and we find it far better to fix and then remove the backing with a pledget of cotton wool. Our method, it is true, rather dirties up the hypo dish, but hypo is cheap and the film itself is kept cleaner this way. The plates fix quickly, but they are always left untouched and not exposed to any light for ten minutes. As regards the speed we class them as just half that of the Seed 30 using the Watkins meter always for estimating exposures both in and outdoor.

Whether the few illustrations shown herewith will convince anyone is an open question, but no one who makes a real trial of panchro plates, will ever go back to ordinary or even the isochromatic, only the color worker knows how much red there is actually in nature. It is true that one does not always want the extra red sensitiveness, and whilst one need not always take advantage of it, it is just as well to have it as a reserve force—its like a balance in the bank, always handy.

MEN OF ONE IDEA

BY PHILALETHAN

It is quite common to sneer at "Men of one idea." Sometimes the sneer is uttered by persons who haven't "one idea." The severest critics of the thinkers and the doers of things are usually those who neither think nor do.

A supreme, overmastering purpose, which taxes all the powers of mind and body, and turns to account every opportunity is the key to all worthy achievement.

Concentration is to a man what engine and rudder are to a ship. It is both motive and guiding force. He who wills to do one thing and then goes about it with single-minded application is sure to succeed.

The great majority of failures in life

may be traced to the lack of a definite aim. As if the captain of a ship should start on a voyage with no particular port in view not knowing or caring where he will arrive. There are many lives which can be correctly described as drifting rather than sailing.

"To every man *his* work"—his own selected or appointed task is the universal law. Each one of us has some peculiar place to fill—some special work to accomplish. No one else can fill that place if we desert it; no one else can do that work if we shirk it. To find our own particular line, and unwaveringly to follow *it* should be the chief concern of everyone of us. Promiscuous activity along other lines cannot atone for neglect of the "one thing," that claims our thought and toil.

Steam spent into the air is useless—powerless. Confined and compressed it drives the wheels of the world's machinery. So human energy frittered away in random plans, and aimless courses accomplishes nothing.

The mechanic, the merchant, the artist who flits from place to place trying first one thing and then another, indulging day dreams, waiting for something to "turn up," is a foredoomed fraud and failure.

Of course, exclusive absorption in any one line of activity, if it be made an end in itself rather than a means to an end will result in a cramping narrowness. The professional or business man who is only that, and nothing more, will inevitably become afflicted with mental strabismus. Hugh Miller, the quarry man became one of the most learned geologists in the old world. Roger Sherman came up from a shoemaker's bench. Where there is a will there is a way. In every department of business there is much which demands study and thinking. Let every man pick out one central pursuit or relation, which shall occupy the most of his time and energy; and then group around it other interests in proper proportion. What we should all aim at is unity in our life. It is a miserable thing to live a divided life—to have two minds, two hearts, two wills. The single minded man, whose motto is: "This one thing I do," and who puts into that "one thing" all there is of him, is the man whose life tells. He is master both of himself and of circumstances.

It is so in every walk of life. The young man who sets himself one supreme purpose in his calling— to know it in all its details from A to Z, however much it may cost him of leisure or pleasure, will sooner or later be at the head of his department, though he begin as office boy. Call the roll of the world's great men, and you shall find that they were all dominated by some master idea, which brought all their powers into subjection. Lord Nelson was made famous not only by his commanding talents, but chiefly by his being a man of one supreme purpose. In his letters he relates that when a midshipman he was at one time very much discouraged and depressed. And he goes on to say. "After a long and gloomy reverie, a sudden glow of patriotism was kindled within me. My king and country vividly appealed to me as my patrons." "Well, then," I said, "*I will be a hero, and will brave every danger.*" Already in that moment the hero of Trafalgar was preparing the signal which was hoisted at the masthead of the Victory: "England expects every man to do his duty." The signal which has covered the name of Nelson with imperishable glory. And so it has been with every successful man, however lofty or lowly his sphere. He has been emphatically a "man of one idea." This is the talisman that will win—*concentrate and conquer!*

THE development of one's personality cannot be accomplished in isolation or solitude; the process involves close and enduring association with one's fellows. If work were purely a matter of mechanical skill, each worker might have his cell and perform his task, as in a prison. But work involves the entire personality, and the personality finds its complete unfolding, not in detachment, but in association.—*Hamilton Wright Mabie.*

PROFITABLE SIDE-LINES FOR THE PROFESSIONAL PHOTOGRAPHER

II. FINISHING FOR AMATEURS

BY A. E. SWOYER

THE day has passed when it is possible to treat finishing work carelessly, simply because it is a side-line; the modern amateur is too well informed to believe that a fogged, frilled and scratched strip of film is the fault either of himself or of his camera. As naturally, then, as cause follows effect, the old line photographer who was accustomed to run amateur stuff through the "slop" after his own work was finished and then expend his time and imagination in explaining what happened to the amateur, has given up finishing work as being unprofitable or too much trouble.

Yet, such work does pay, nor need figures and facts be produced in order to prove it. Glance over the pages of any magazine designed to interest the amateur photographer and you will find firms who are not only seeking this business at prices which would seem ruinous to you, but they are paying the cost of such advertising, as well as postage on the films. It is true that the large volume of business which these firms handle enables them to work at a profit, but you do not have to meet their prices; you have your own clientele right at hand who would rather turn their work over to you and pay a higher price for prompt service than they would to send it away to strangers. Moreover, these mail-order houses have heavy overhead charges—advertising, rent, postage, equipment, salaries, insurance, depreciation—which do not trouble you; it seems almost certain that these costs should more than offset the advantages of a large business, and enable you to meet their prices if necessary.

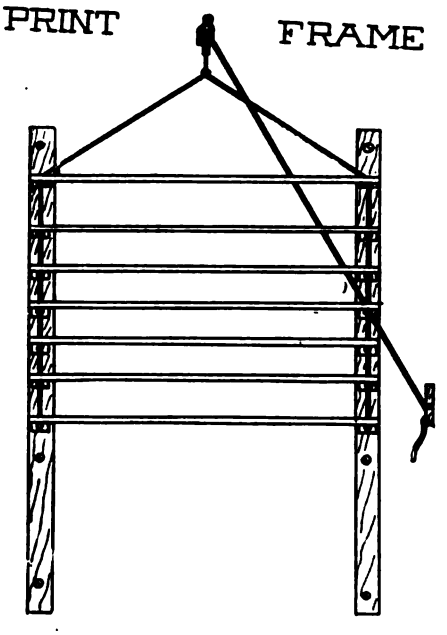
As for the bother—well, if you have discovered any way of making money without work you are foolish to stick to photography at all! At any rate, the past few years have seen so many improvements in equipment that "Photography with the bother left out" is no longer a dream, and as these advances were made largely in the interest of the amateur they are equally beneficial to you when you do amateur work. For instance, there's tank development; you may not utilize it for your studio negatives, because you wish to produce certain effects or modifications that you had in mind when you made the exposure. This is not a factor in developing for others; you don't know whether the exposures are snap-shots or time, interiors or landscapes—in fact, you're apt to find many sorts upon the same roll. There's no use in trying for individual effects, because you don't know the idea (if any!) that the amateur had in mind; your problem is to produce the utmost value in each of a number of negatives exposed under varying conditions, and to produce them as economically as possible.

So why not the tank? It is admittedly the only way to secure such results, unless you care to cut up the film and give each exposure individual treatment; even then it is superior, for mightly little control can be had after the image appears and until it does appear you will be in the dark as to possible troubles. Figuring ten minutes to the roll—six minutes is the actual developing time, the balance being an allowance for inserting the film and for transferring it

to hypo and wash water—and assuming your charge for developing to be between fifteen cents and twenty-five cents a roll, your average return will be in excess of a dollar an hour with the cost of materials deducted. That's just a beginning, too, for prints at from three cents to ten cents each show an even higher margin of profit; then there's the sale of supplies, possible enlargements, the unconscious advertising that the amateur gives to your studio—no money in amateur work, did you say?

Of course, you've got to get the business and you's got to handle it to advantage, the latter being the more difficult problem of the two. As a professional, your studio is the goal to which the amateur will logically turn, so that much of your business will come to you unsolicited; advertising may be indulged in, but usually the window card with samples of your work attached will be sufficient. Handling the work when it comes involves two principal points; you must do the work well enough to justify confidence and simplify it so that it may be done economically. There is no question about your being able to do this work to the satisfaction of all concerned; the point is to avoid carelessness and to remember that if you repeatedly return unsatisfactory films or prints to a beginner he will become discouraged and finally give up his hobby—which means dollars out of your pocket. Above all, strive for promptness; the average amateur is as anxious to see the result of his exposures as a mother to see the face of her first-born, and the man who caters to this feeling will land the business.

Outside of the tank but little extra equipment is necessary in order to handle a quantity of work, but two or three little things which may easily be made at home will save many steps. For example, it is a good plan either to have a shelf under your drainboard or to build a rough table upon which tanks may be placed; this serves for their storage while not in use, while they may be placed thereon when developing is in progress and thus leave the sink free for other work. Then a number of large



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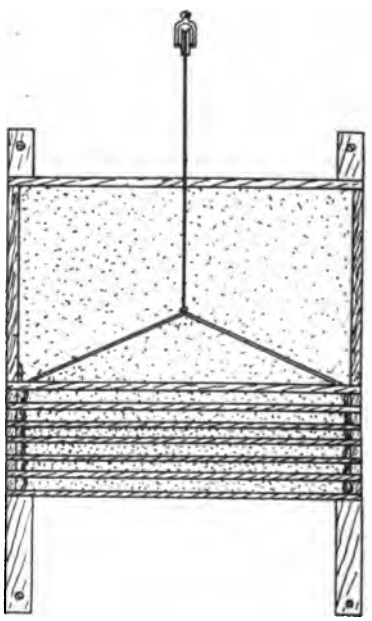

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trays in which a quantity of prints may be handled at once are a great time saver, as is a drying rack made of cheesecloth tacked to a series of frames; a convenient arrangement for this is suggested by the drawing—in this type the frames may either be dropped flat against the wall or raised for use in an instant, since each frame is separately hinged to the uprights screwed to the wall and all are operated by the one cord and pulley.

A rapid printer such as is exploited elsewhere in this magazine, is a good investment, too. It is to be noted that with this apparatus the operator may remain seated with everything within easy reach; his prints are made rapidly and easily, while since all developing is done at one time additional minutes are saved. While this printer is adapted only to use where the electric current is available, it may be adapted to other forms of illuminant by changing the position of the light; if desired, some other form of machine may be constructed, designs for such models having been given in WILSON'S for October, 1911.

While proper arrangement of the work-room and suitable apparatus are essential to economical production, a saving may be made along other lines as well. It is, perhaps, carrying coals to Newcastle to suggest that it pays to buy ingredients in bulk and mix one's own developers; yet many photographers who would not think of doing otherwise in their ordinary work seem afraid of the tank and are timid about discarding the special powders prepared for such use. Dozens of formulas for tank developers have been published, and, since the tank simply means longer action of a diluted developer, the saving in making up the weaker solution is even greater than in ordinary work.

In buying paper, too, there is a chance to exercise judgment. Many finishers will carry in stock a gross or so of every common size; but why? There is no sense in carrying both 5 x 7 and 2½ x 4¼ in stock, since each of the larger sheets will cut up into three of the smaller, with testing strips to boot, and this applies to a number of other sizes. It is not only a question of convenience, but of real economy as well; thus, a gross of Azo in double weight retails for $3.45 in 6½ x 8½ and for $1.15 in the 3¼ x 4¼—but each sheet of the 6½ x 8½ will cut up into four of the smaller size, thus giving you four gross of paper for $3.45 as against $4.60 for that already cut. In this case that means a saving of $1.15, 25% or one gross of paper, whichever way you prefer to figure it; to my mind that seems good pay for a few minutes work with a trimming board, especially when you consider the smaller space required for storage and the lessened chance of deterioration which exists when you carry fewer sizes in stock.

Of course, there are other outgrowths from the straight finishing business, although you may have prejudices against tieing up money in a large stock of amateur supplies. Your own judgment must decide as to whether it is policy to carry a line of cameras and accessories, but there can be little doubt as to the wisdom of handling plates, films and paper for amateur use. It pays, too, to make up a "Personally conducted" party of amateurs for snap-shotting expeditions, and to boost business in similar ways. Then, there's the chance of increasing your field; if you have customers who are a source of steady business to you, make an enlargement from one of their especially good negatives and include it in their order without extra charge—when they recognize its superiority over the small contact prints, they'll be back for more.

While much more might be written upon the subject, space does not permit. Enough has been said, however, to show that money may be made in photographic finishing, that the equipment necessary is inexpensive, that the work may be done during periods which would otherwise be but waste time and that close attention to the little things may mean the difference between profit and loss. Moreover, remember that in this as in all work it pays to do only the best; the success of your business and the honor of your profession demand it. In other words, take care of the amateur if you expect him to help take care of you!

A FISH-EYE CAMERA

A CAMERA that "sees" almost around the horizon—that, making allowances for a little poetic hyperbole, is what Dr. Robert H. Wood, professor of experimental physics at the Johns Hopkins University, has contrived.

There never was another camera like it, and inasmuch as it has no commercial value, on Dr. Wood's own confession, there will probably never be another. What it can actually do is to photograph at one exposure 180 degrees of the space surrounding it, or more concretely, if placed flush against one wall of a room, it will photograph all four corners.

Dr. Wood has been making experiments with the singular contrivance. He conceived the idea some years ago and made a smaller model than the one he now uses, and took some pictures with it. He called it the "fish-eye camera," because it is supposed to reproduce on the plate exactly the image that the peculiar lens of the fish's eye projects upon the retina of that creature's visual organ.

The cameras of the widest scope in commercial use make pictures of only 96 degrees. That means that they record only a little more than a quarter of what is around them. By taking advantage of the refracting quality of water, Dr. Wood's camera captures a view of one-half of its surroundings. It is an uncanny thing. It sees a lot more than the human eye can see, albeit in a strange and somewhat distorted way.

Water refracts a ray of light passing through it. That fact has been observed by most everyone. A coin in the bottom of a water-filled vessel appears back of where it really is, because the light reflected from it to the eye is refracted or "lent" when passing from the water to the air.

Dr. Wood's camera is a metal box, watertight. On the bottom of it he lays an ordinary photographic plate. Then he fills it with water and shuts down the lid. The lid is solid save in the centre, where a piece of plate glass is fastened in. The glass has no essential function; it is not a lens. It is, in fact, all covered with tinfoil, save a pin hole in the centre. That pin hole is the "lens."

When the pin hole is uncovered the plate records its surroundings, or half of them. The rays from objects on a line with the front of a camera when they reach the pinhole and pass into the water are refracted, so that instead of being lost on the side of the camera, as is the case with an ordinary pin-hole camera, they are all gathered on the plate, which thus reproduces everything in front of the camera and on both sides of it back as far as a line coincident with its front.

Unfortunately, the refraction shows on the plate in a way that makes the whole world have a sort of convex appearance. It is that illusion of convexity that spoils the marketableness of the camera.

But it does some wonderful things. Placed on the ground, pin hole up, it takes a picture of a circle of men standing around it, feet and all. Pointed across the street, it takes not only the house opposite, but the houses both ways as far as the horizon, the curb immediately in front of it and the sky overhead.

Commercially it is practically valueless, this "fish-eye camera."

THE PHOTOGRAPHIC BUSINESS FROM A SCIENTIFIC STANDPOINT

An address delivered before the Photographic Dealers' Association of America

BY JACQUES ROMANO

THE subject that has been announced for me to speak on we shall divide upon two constructive principles. First, I will speak on psychology of the mind in business, and, second, the scientific knowledge of business. I will explain why some clerks talk for half an hour and fail to make a sale and at times make a sale in a few minutes. There are reasons for everything, for success as well as failure, in making sales. Whatever I have to say to you, I assure you, has nothing to do with my personal experience, or anybody's experience, for your experience and mine are absolutely valueless when it comes to knowledge based on scientific deductions. Experience is not knowledge. What is good for the man in the South is poor for the man in the North, and what is good for a man in the West would not apply to a man in the East.

You have all heard the old saying, "There is nothing new under the sun." We can understand that scientific fact only when we throw off our self-styled importance and egoism. Then we learn we have discovered nothing, for every discovery made is of that which has been existing, an existing condition of which we previously had no knowledge. The elements are there, the forces are there; our study and progress bring us in touch with nature's laws; all laws which are possible and finite are in harmony with our own make-up. It is our ignorance of the existing laws and conditions which makes us discover things. Let us forget our self importance and settle down to find a reason for everything that happens. Let us ask ourselves, why, and find an answer based upon fundamental principles of nature's laws, not on our own self importance. Then we will soon come in touch with an enlightenment that will give us a mastery unknown to those who entrust their future to luck, hope and a rabbit's foot.

Mr. Bramley, who spoke on advertising and the art required in order to attract the passerby, described to you a display in a window of a full outfit of a kitchen with all its utensils. The finishing touch of that display was found in a cat sipping from a bowl of milk. In another picture he showed how essential the figure of a woman was to show off a lady's hat, which was really the great factor of this particular window display.

Some of you, naturally, come to the conclusion that one must have an artistic mind and knowledge in order to be a window dresser. No, my dear gentlemen, do not overburden yourselves with an uncalled for knowledge, which is purely based on knowledge of the power of suggestion. Study the law of psychology of the mind and you will find that all is easy. In the first display where the cat was the great factor (which Mr. Bramley rightly emphasized), the cat in the window represented life, and the life within us is in turn attracted by life. The kitchen with all its accessories is an artificial condition brought on by society to which we are attracted by our personal means. The cat, on the other hand, is the same with the poor and rich, and

it holds out no partiality. The cat represented the universal place of the picture. The cat meant no expense; it is within everybody's reach; it shows no disturbance but is at ease in all its wealthy surroundings. That is why the cat was the factor. It told the pedestrian that he need have no fear of all the luxury shown in this window display.

In the second window, the lady's hat, that great Easter creation, means nothing to a man, and even to a woman it does not explain its beautifying effect unless seen on a head. A lady's hat has so much trimming, in my estimation, that it must be shown how the hat should be worn. The hat then had to have a human form, an outline of a woman's form to attract us. The simple drapery around the waist line was enough to convey to the conceited woman to attract her attention. Then the hat was seen, which was really the most attractive point on that simple draped figure, giving the hat a chance to bring it out in full display.

By the two pictures described, giving the reasons for the essential points based upon knowledge of suggestion, and applying your study continually to everything that attracts your attention, understanding the whys and wherefores, you can in time apply the underlying principles for the accomplishment of the desired result. Do you realize that we are figures ourselves and are constantly displaying ourselves, knowing the law of attraction, suggestion and psychology of things? I try to dress according to my make-up. I am five feet, six. For that reason I never dress in blue, for blue has a tendency of making one shorter and thinner. I dress in dark gray. A tall man can look shorter in a plaided suit; a thin man can look stouter in a light gray suit.

Well, gentlemen, let us go back to the starting point—how to handle a prospective customer from a psychological standpoint—to be dominating instead of being dominated. First of all, your clerk must fully understand his business. He has not been engaged to show his cleverness to the customers, to show his vanity or pride. From a psychological standpoint, vanity in all its forms and phases is destructive. The impulse back of it is the love of approbation and the insatiated desire for personal admiration. Pride can be defined as unreasonable conceit of ones own superiority. The clerk must know his mission, and that is to make the sale, no matter what a crank he is dealing with.

As I understand your line, you carry kodaks, cameras and all sorts of photographic supplies. Your line represents luxury. It is far from being a necessity. You can be classed in the sportsman goods. Hence, your clerk must address himself with a proper spirit applying to the sportsman line. He must look the part of the jolly sportsman, the happy-go-lucky individual to meet the sportsmanlike spirit of the prospective customer. For the love of Mike, do not let him approach a customer as though he was selling him a coffin instead of a kodak. The clerk must apply 100% of energy in making the sale. He must not become anxious or over-anxious in doing it, for anxiety takes away part of the dominating power applied to suggestion.

To be efficient the clerk must have some knowledge of the important laws of suggestion in order to win out when the psychological moment prevails. It is an established fact that we can think, judge and reason better when our head droops. The drooping of the head relaxes the vaso-motor centre. Look at the pictures of Victor Hugo, Bethoven and Napoleon, and you will notice the artist portrayed each one with the head drooping. Each portrait conveys to your mind a power of concentration in the make-up of these brainy men. The general, who drills soldiers, takes care that they should keep their heads up. He does not want them to think or to entertain any ideas. They are pieces of machinery to him—cogs in a wheel. But watch the general, his hands are resting upon the hilt of a sword; his head droops; he is in repose; his brain works. From our little lesson of the working of the vaso-motor centre, we form the fol-

lowing deductions: When we have our heads raised to a certain angle, our power of thought and judgment diminishes. By keeping our head drooped, our power of thought and reasoning increases. You can apply this knowledge in selling goods.

When your prospective customer drops in, take advantage of him by politely offering him a chair and ask him to be seated. You, in a standing position, talking to your customer, he will naturally raise his head to a high angle. It is your psychological moment. Forcibly and to the point explain the beauty of your kodak or camera, and when you see you have made the desired impression, put the kodak aside and talk about films and the simplicity of making pictures. By all means use tact to prevent your customer from taking the kodak and placing it on his lap for examination. The head assumes the drooping position, the vaso-motor centre relaxes, the sense of reason comes into play, and he finds fault with the object you are trying to sell him. You will find you have to do the work all over again before another opportunity will present itself for you to exchange your camera for his purse.

There is also a dominating and controlling factor in meeting the opposites to ourselves. The brunette, naturally, attracts the blonde; the tall man with broad shoulders and well developed nose is attracted by the small plump girl with a round face and small nose. The stout woman likes the thin man; the fat man likes the wiry girl; the old man likes the young girls. Here we have another lesson from which we can proceed.

If you employ two or three clerks, have a plump clerk with a round face and small nose, another tall, broad shouldered and Roman nose, the third one, with a short neck, broad nose, and, as a matter of fact, a bull dog face. The first two will answer in meeting the opposite of themselves. The third you can use to deliver the finished amateur work to prevent unreasonable kicking on the part of the unreasonable amateur. The bull dog face will convey to their mind that there is no use starting an argument.

You will see for yourself, gentlemen, everything has a meaning; every action will tell a story, and all is based on a constructive or destructive principle. With your kind permission, I will give you in a nutshell the law of harmony. In truth, it is that principle in nature which impels every entity to seek vibratory correspondence with another like entity of opposite polarity.

Gentlemen, in touching upon efficiency in system, system is only good when you have efficiency. Too much system will give you little time to make a sale. Employ efficient clerks, create in them confidence in the line they are selling. That will help them take the initiative in advancing the sales, for all will be progress and creation.

The avarice within us in business dealings impels us to grab the customer away from our competitor, which in your case happens to be a dealer in photographic lines. If your customer is already a user of photographic goods, you have simply taken a tree from one place and transplanted it in another. That is all very well and good as far as the struggle for existence is concerned, but bear in mind that every time you sell a kodak or a camera to one who has never used an instrument, you have become a creator. You have planted more trees with more fruit for you and others to pick. Let the others do the same. Let every member of your newly born association do the same. You are all interested in photographic goods. You are competitors, but you can easily realize how much good you can do as a body, understanding that everyone of you can create new efforts of one like all of which will be profitable to you, even with all avariciousness for the struggle of existence.

Yes, I must tell you of an incident that happened to me the other day, which will illustrate "efficiency" versus "system." Two friends of mine and I formed a habit of taking in some moving picture shows. We went to a show house right opposite the Seneca Hotel. I handed out my three nickels—it was

my turn to buy—got my tickets, the theatre was crowded and I decided to go to another place. Mr. Evanoff, who was with me, said, "Jack, get your money back." I went to the cashier's window and handing him the tickets, I asked for my nickels. The systematic clerk told me to see the manager, who was in the theatre. Leaving the window, I told Mr. Evanoff there was no chance of getting back my hard earned money. The best thing we can do is to use them again some other time. Mr. Evanoff, rather excitable, exclaimed, "holy cucumbers, go on, Jack, insist upon getting the money back or let him give us seats." United like the three Muskateers, Joe, Jim and I made our way to the cashier's window. I demanded with all force my three nickels, by gosh. I blocked the way to the cashier for all newcomers. I forced him to send for the manager. His Royal Highness came. There was a hasty consultation between clerk and manager, and my three nickels were turned over to me in exchange for the tickets.

You see, gentlemen, that was system. The system brought to the minds of many waiting to buy tickets that the theatre was full, with no more accommodations to be had. A general vibration of discontent and dissatisfaction predominated, and many left the lobby not wanting to take any chances.

Efficiency on the other hand, would have told the management to have the clerk gladly refund the money and sing out to us, "Boys, I hope to see you tomorrow." We, naturally, would have responded with happy greetings for tomorrow, leaving a vibration for contentment instead of dissatisfaction.

Gentlemen, we will turn now to what is known as business built on a scientific basis, which will explain why some dealers succeed and others fail. It will also put you in closer understanding with the manufacturer of photographic supplies. I am not here as an iconoclast, I have not come here to tear down that which you have for many years built by your experience in your mind. I am here to talk to you from an impartial standpoint. Look upon me as a surgeon cutting off a man's leg. The patient cries and moans. The moans and cries mean nothing to the surgeon, who seems heartless and cruel, but knowledge based on science tells him to cut the leg off to save the man's life. I am taking the same stand, giving you the scientific reasons for success and failure. It means very little to me what your sentiments might be towards my cold blooded figures that give facts.

There are about 8,000 photographic dealers in the United States. Let us understand what is responsible for that immense growth of you dealers for the last fifteen or twenty years. A certain manufacturer kept on advertising and advertising till he created a demand for amateur photography. Photographic dealers began to grow in numbers. This is the first constructive principle which developed the amateur industry and which you must uphold. You must work in accord with every manufacturer who creates, no matter whether you have dealings with the concern or not. You are here because the manufacturer created you. You must bear in mind that kodaks and cameras are luxuries, and by knocking a manufacturer's goods to an amateur, you destroy the enthusiasm of the amateur. All is good, all is joy. The different goods, the different makes of photographic goods are in conformity with the different opinions of the sporting element. The dealer who will acquaint himself with the figures I will give, can easily find out for himself whether he stands a chance to succeed in his present location, whether it will justify him starting a photographic stock house in a certain town or in another location. He will quickly learn that he has no one to blame, that it is ignorance to say I have never had a chance, I am not given an opportunity.

The ignorance of the true conditions makes a person hard-hearted and cruel. The mastery is lost, and self-pity taken possession of his brain and self-pity is destructive, for self-pity is one of the most unfortunate weaknesses to which erring human nature is subject. It is

profoundly destructive in its effects, whoever harbors it. Out of the assumed grievance very naturally, too, the conviction grows that we are aggrieved and injured parties. Oftentimes our assumed grievance resolves itself into a definite conviction that we fully and rightly deserve vastly more than we now possess, or have ever received from all that the wordly progress has to give. With an imaginary grievance as a basis, we develop a mental or psychological acidity which has the effect of souring everything sweet within us.

You have to learn business statistics, the knowledge of scientific deductions. It is a thing all the photographic dealers and the prospective photographic dealers ought to know, then you will not blunder so easily and you will quickly learn the compensation to be rightfully expected for your efforts.

There are about 15,000 professional photographers in the United States. There are about 650,000 amateurs in the United States. The average consumption of the professional photographer per year is about $600, the average consumption of the amateur per year is about $35.00. There are about 8,000 dealers in the United States. The average purchase of one dealer is $2,843 of amateur goods and $1,125 of professional photographic goods. The total consumption of professional photographic goods in the United States is about $9,000,000; amateurs $22,750,000. Total consumption of photographic goods in the United States is $31,750,000. It takes an average of 6,000 population to support a professional photographer and it will take 11,178 population to make 81 amateurs to enable the dealer to hold up his average.

From the above figures, you can easily form your conclusions what you can do and what you can expect. When you want to establish yourself, have a thorough understanding how far you want to reach out, then make a circle embracing all the territory. Study the population, compare it with the figures mentioned, and then you may know what to expect. You will find by doing so that it will do away with all charms, prayer, hope, rabbit's foot and holy water.

If it is interesting to you, I will also tell you that the next best country to the United States in the American hemisphere is Argentine, whose average is one photographer to 16,666 population. The poorest country in the American hemisphere is Brazil. There is only about one photographer to every 244,144 population.

Now, gentlemen, you can see for yourself the importance of your association, what you are to do in order to increase the business. You must all work hand in hand, dealers and manufacturers combined, no matter whether you compete with one another or not. Do not acknowledge the natural laws of competition. Do not let them stand in your way to unite harmoniously, to keep on advertising, and to advertise the development of the amateur and professional photographic industry. Everyone of you has different ideas, everyone of you thinks they are right and everyone has a right to think they are right in his opinion, for each human being represents just exactly what he is and his thoughts are just that what he represents. Everything is good, everybody is right.

It reminds me of two men who had an argument about the hereafter. One believed that there is a hell and the other one did not believe in a hell. The two came to me to settle the argument. My only answer was, "gentlemen, you are both right and stick to that which you think is the right way. You who do not think there is a hell, your character, your nature, your kindness has developed itself to such a height of goodness, that you cannot see the cruel necessity of a hell. You, who thinks that there is a hell, for the love of Pete stick to it, for you need it."

It is always good to be kind and to think kindly, no matter what happens, no matter what hardship or cruel condition will prevail. Teach yourself and your clerks to eliminate from your body all fear and hatred. There should not be any such thing as fear and hatred. Once you have conquered these two

mortal enemies, you will gain a certain mastery. It will help you to get all that is coming to you. Never exercise any hatred even for one who deserves to be hated, for hatred, anger, animosity, ill-will, malice and revengeful thoughts will in time change your features, and tell the story of your inner soul. People coming in contact with you will feel your obnoxious presence and then you will wonder why people shun you.

In closing, I want to tell you a little story that will illustrate the effect of your thoughts and doings upon your face. Leonardo de Vinci, the greatest artist who ever lived, was one who had the power of thinking in pictures and in words. When he painted the great painting of the Last Supper of Christ, he picked the different types to represent the disciples. He then looked for a face that meant all kindness, all sacrifice, a face that breathed a spirit of truth. In a litle town he beheld a monk who had a face that looked so sad, so noble, so self-sacrificing. He asked him to pose for the great Master, and the monk gladly accepted. After almost three years, the artist began looking for a face to represent Judas. Judas was not a bad character from a scientific observation. Judas was a scientist and a student, or he could not have been chosen to be one of the great Master's disciples. He developed an ambition that killed the good in his soul. The artist looked for that type in jails. He saw a man in a cell, who presented rather the avaricious character and yet represented a type of intellectuality. That face was painted to represent Judas. After the work was done, to the amazement of the artist, he learned that the man who posed as the great Master was the same as he of the prison cell who had posed for Judas. The heart and soul poisoned by avarice had changed his face.

From my little story you can form your own conclusions, and surely you will find it apparent that your faces tell the story of your soul. Do you wonder that some appeal to you and find pleasure in dealing with you, while others are repulsive and you breathe a feeling of relief when they disappear behind the door.

You have gathered here in a body under the name of the Photographic Dealers of America. Your gathering I can only sum up to take action against possible business actions. Your actions must be turned first to knowledge and your knowledge applied to constructive principle to develop business mutually and in perfect harmony, so as to continue its growth. Let the little man use his brain how best to outgrow his competitor by principles of efficiency, instead of trying to destroy his competitor. The united force of the great number of you who are here, will, with proper thought, make you a power. It will develop in you a mastery of righteousness and justice for one and all. Your power and strength, due to your number as an association, can bring forth forces of vibration of loving, of soul, of consideration, that will destroy avariciousness and greediness. You can by giving justice, receive justice, and bring in line by your constructive principle in business, new and better business for yourself and for others. Competition will only be to you a help, to plant the acorn in greater fields. You will gain and gain and bring those near you who now stand out of harmony with what is right. Your united force in the right direction will make them come to you for all that is good, to help the good work you have so nobly undertaken, your share in this universe.

A *wise* man will *make* more opportunities than he finds. And he generally sets the pace for his less gifted brother who is content to follow. That's the reason courageous, enterprising photographers always have a bunch of imitators. A stern-chase is a long chase for the "trailer" however. He never overtakes the pioneer.

ARNOLD GENTHE

BY WILL IRWIN

THE schoolmen used to quarrel and split hairs over the problem of the donkey and the haystacks. If a hypothetical donkey were placed exactly equidistant between two haystacks, what would he do? To which would he turn? After debating the subject for several centuries, they decided that he would do nothing. He would remain paralyzed in his tracks until starvation overtook him. All the more firmly would the solution hold if he stood equidistant among six or seven haystacks.

They were wrong. For that problem found solution in the practical nineteenth century. Be it understood, by the way, that in the subsequent remarks which are quoted from *The American Magazine,* no invidious parallel is intended between an immortal hypothetical donkey and an actual mortal human.

As the nineteenth century hastened to its close, a young German sat gazing across San Francisco Bay and meditating upon the subject of his future. He was a tall, stalwart young man, with an un-Teutonic thatch of wavy black hair. Though weighted down with the title of Herr Doktor Arnold Genthe, he held his shoulders square and erect. Much as I dislike to say this of any male Teuton, the truth must be told—he was handsome.

This was his problem: He had come to San Francisco as tutor for some fledgling German counts. The family was returning to Germany, where the young men would enter the gymnase and need no tutor. Herr Doktor Arnold Genthe had passed the early twenties and it was some time for him to choose a career. And the trouble which lay at the bottom of his meditations was the number of careers, all promising, which he might adopt.

He was already a Ph. D. from the University of Jena, with trimmings from Berlin and the Sorbonne. He had qualified as a high philologist. Among the publications of the University of Jena was a treatise on the Authenticity of the Tenth Century Luccan Codes of the University of Erlange—a work so erudite that Professor West of Princeton is the only living American who has read it. Also, he had published "Genthe's Dictionary of German Slang," still the standard work on that subject. He need only return to Germany, apply for a job at some university or other, and become Herr Professor. In the course of his philological researches he had mastered eight languages, ancient and modern; therefore, teaching in American schools was another possibility. While in the university he had patched out his income by writing feuilleton romances for the German newspapers. Literature presented her opening. Besides, he had mastered the English language in every shade and idiom. He could write it, as not one European in ten thousand ever can, without a trace of foreign flavor. And an editor of San Francisco was willing to try him out as a reporter. Early in life he had begun painting in water-colors. He still painted in odd hours, and his teachers advised him that he had great talent. There was art, beckoning. In the university he had been a famous duelist; the network of scars under his front hair attested that. Further, he could split a card with a pistol bullet. So he might take up the profession of master-at-arms.

Suddenly young Herr Doktor Arnold Genthe sprang up from the park bench from which he had been watching, with unseeing eyes, the crest of misty Tamalpais.

"I have it!" he cried in the purest polysyllabic German. "The problem of the schoolmen is solved! Move up another stack!"

Divided between abstract scholarship, teaching, literature, journalism, art and arms, he chose none of them. He proceeded to the public library, took out all works, in all languages, on photography, bought a twelve dollar kodak, learned

ARNOLD GENTHE

FROM A BUST BY CARTAINO SCARPITTA

from the clerk how it worked, proceeded to Chinatown, and became a photographer.

Those were the days when we had just begun dimly to perceive that photography, in the beginning only a trade, may become an art. We were learning that the artist can eliminate the deadly literalness of the camera by subtle developing trays and printing frames, that certain effects baffle the brush but yield to the gelatine films, that the old, wonder-working sun produces effects in light and shadow of which even Rembrandt never dreamed. Genthe, working alone on the edge of our world, approaching photography as an artist, not as a tradesman, perceived all these things from the first. Presently his studies of beautiful women had made a hit in San Francisco, which appreciates an artist as no other city of North America; a year or two more; and he became founder of a school. When enthusiastic friends praised the work of this or that young art-photographer, they said: "Why, it's better than Genthe!"

Whatever Genthe's general rank among the great photographers of the world, in one thing he always stood preeminent—the snapshot. He could take a bit of action at a street corner and transform it, by the time he had finished all his mysterious processes, into a genre work like the canvas of a Flemish master. His negatives of old Chinatown—the only belongings which he saved from the San Francisco fire—are famous. Whenever his gallery business gave him traveling money, he used to wander afield to Mexico, to Japan, to Spain, to Morocco, looking for subjects; and the snap shots which he brought back from these journeys were no lower in merit than his Chinatown work.

Color they had not, of course; and with the heart of a painter he longed for color. Presently Lumière learned to photograph colors on a glass positive; later others worked out a perfected process for transferring these glass positives to a printer's half-tone plates, and finally to the printed page. Strangely enough, the one thing which science has not yet solved is a practical process for making ordinary photographic prints in color.

However, you can register colors on glass, which was enough for Genthe. From that time snapshots in black and white became pot-boilers to him. He threw all his enthusiasm into color work. His longing for a wider field led him over the course which most California artists, native or naturalized, take in time—he came to New York. Thousands of negatives, in a vast range of color subjects, attest his zeal. Into them has gone the same subtlety of vision, the same genius for elimination, which marks his snapshots. And this year his work received one of those little tributes which count more with artists than the decorations of kings.

The scientific men are working hard with the problem of making photographic prints from color negatives. It is a race. Half a dozen groups in different countries are on the problem. Now a certain American, of a turn both scientific and artistic, has come nearest the solution. "My hand is on the doorknob," he says. And this man bestowed the perfect tribute last year by asking to make the first real color print from a Genthe negative.

Herr Doktor Arnold Genthe has not entirely forgotten his other talents, only they are avocations now. He stops occasionally in his night wanderings through New York to astonish the loafers of a Bowery shooting gallery with his control over pistol bullets. His "Dictionary of German Slang," after twenty years, has been revised for a new edition. Slow people, those Germans; an American dictionary of slang would need revising every three months! Now and then he puts forth a monograph on philology or an article on photography. When he went snapshooting in Japan, he learned Japanese in his spare time. Having mastered it to his satisfaction after three months or so, he filled out the rest of his stay by getting a superficial knowledge of primitive Aino. In short, while he does his steady eating at the new haystack, he nibbles now and then at the old ones.

MARTHA HEDMAN

BY ARNOLD GENTHE, N.Y.

MR. HARRY A. THOMPSON

BY ARNOLD GENTHE, N. Y.

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"A HOLIDAY"

BY ARNOLD GENTHE

SEE "FLASHLIGHT WINDOW PHOTOGRAPHY"

BY CAMPBELL STUDIOS, N. Y. COURTESY OF "VOGUE"

THE MARCHIONESS OF DUFFERIN

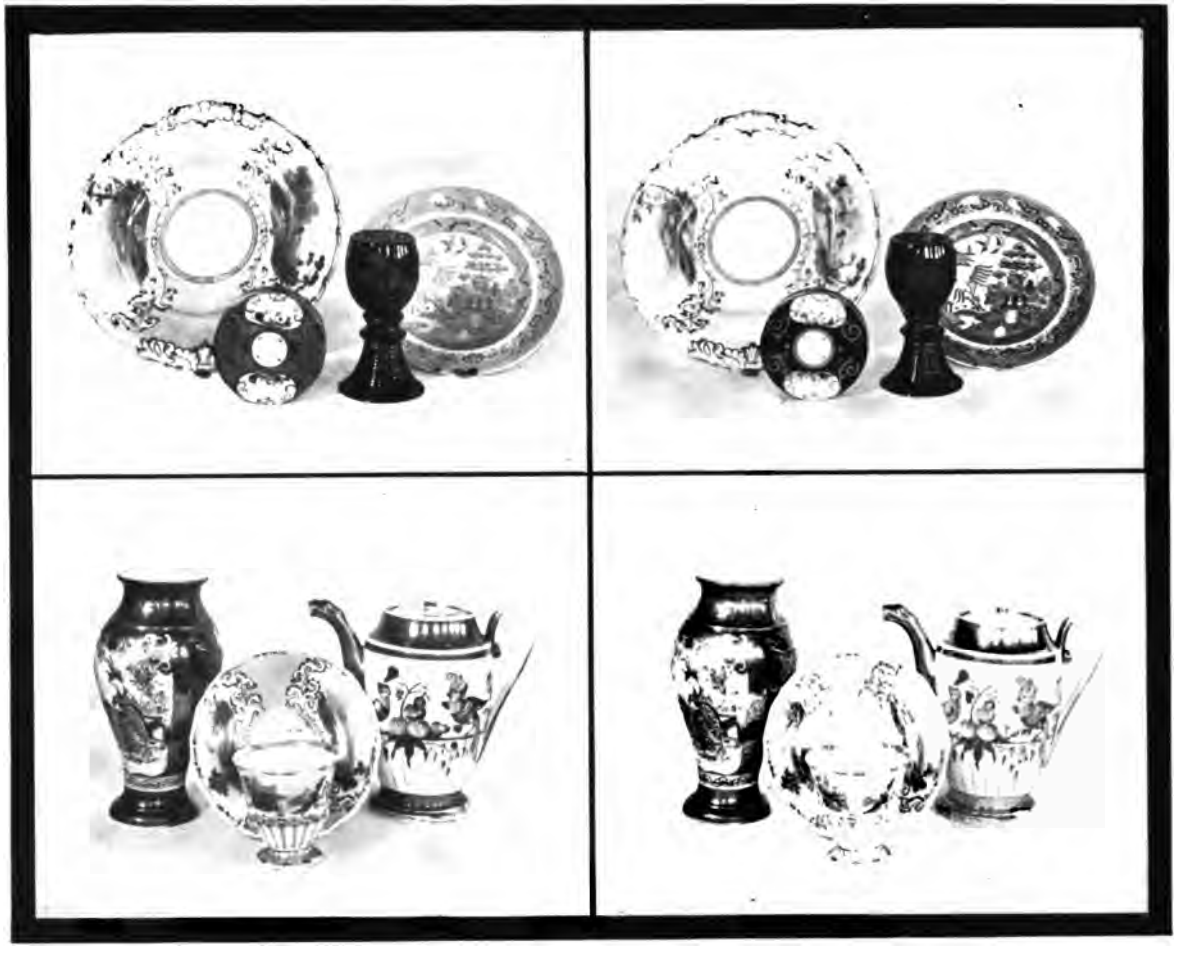

FIGURE 5 FIGURE 6

FIGURE 7 FIGURE 8

SEE "THE VALUE OF PANCHROMATIC PLATES"

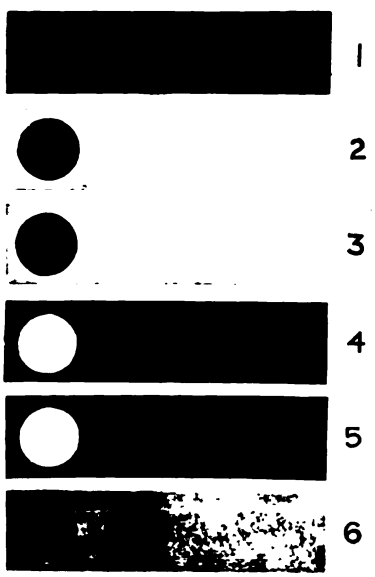

FIG. 1

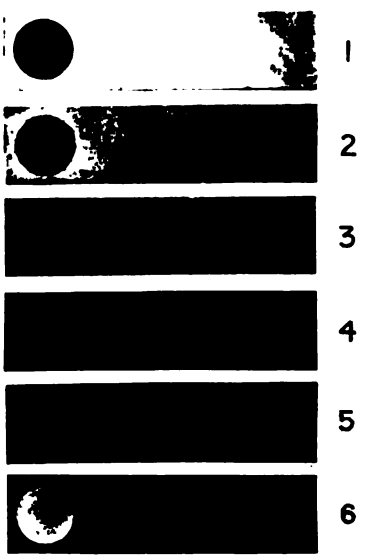

FIG. 2

FIG. 9

FIG. 10

SEE "THE VALUE OF PANCHROMATIC PLATES"

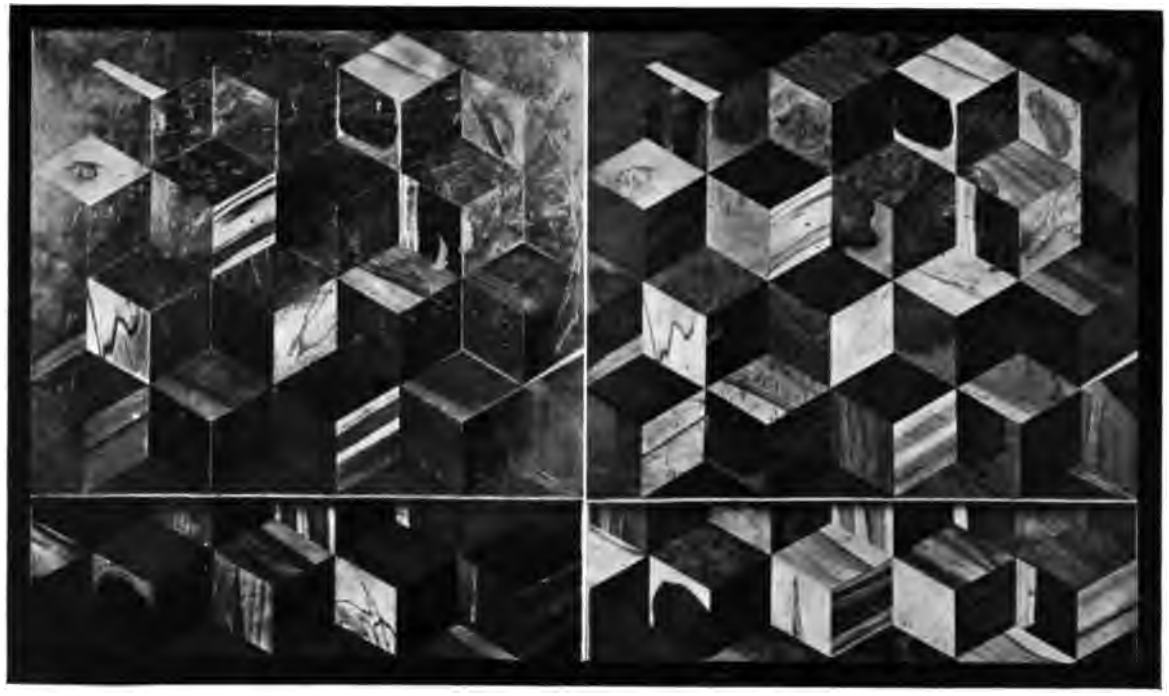

FIG. 3 FIG. 4

SEE "THE VALUE OF PANCHROMATIC PLATES"

FIGURE I FIGURE II

FIGURE III FIGURE IV

SEE "A NEW VERTICLE CAMERA"

(1) THE FIRST ATTEMPT

(2) A BETTER VIEWPOINT

(3) BETTER BUT STILL TOO STIFF

(4) THE STIFFNESS BROKEN

(5) MORE LIFE INFUSED

(6) WIDE AWAKE

SEE "WHAT EVERY PHOTOGRAPHER SHOULD KNOW"

WHAT EVERY PHOTOGRAPHER SHOULD KNOW

BY A. W. H. WESTON

To many photographers posing is the greatest stumbling-block in portraiture. Theoretically, perhaps, we should not pose at all, but it is because that under certain conditions we *must,* it becomes so difficult.

Even with the sitter freed from the camera consciousness of the moment, a natural attitude consistent with good composition does not always come spontaneously. Howbeit (although at a glance we may know that we are wrong, and that a more experienced portraitist than ourselves is right beyond a doubt), so many factors contribute to success or failure that it is a hard struggle to find the points of difference.

There is one thing, however, that every portraitist should know; it is the importance of good lines in posing. By lines I do not necessarily mean long stretches of contrast building up the picture; every part of the human frame and every movable accessory introduced to support may constitute, or help to suggest, a line.

In posing we should arrange these lines to form a well-balanced composition, pleasing to the eye and appropriate to the subject.

I have taken an ordinary wooden doll to support my remarks. It will be noticed that with the chair—introduced as an accessory—there are five lines to take into consideration. I might give fig. 1 and then fig. 6 to show the wrong and the right way of arranging these lines, but such a harsh contrast of the wrong and the right is difficult to study, as I have already remarked. To make it more lucid, I have rearranged one line in each illustration until the pose is shown completed in No. 6.

It will be noticed that is a process of breaking up, until from the stiffness of No. 1 we have the easy animation of No. 6, and in principle this is the art—the "what every portraitist should know" of my article—the breaking up of stiff lines.

In No. 1 we have the figure much too stiff, of course, and one cannot imagine even the newest novice portraying its like. By moving our view-point a little round to the right, we break one line with our line of vision (No. 2), and if we move the chair to bring its back a little out of line with the facing of the figure, as in No. 3, we remove the two most glaring faults of No. 1.

Now from the head to the ground is a straight line, which is as unnatural as it is unlovely. We place one arm on the back of the chair and the other on the hip (No. 4), and this line is much better.

The figure, however, is still too stiff and scarcely leaning enough upon the back of the chair, which is a suggested support. We bend the leg into an easier position and incline the body more towards the chair (No. 5), and the whole pose becomes natural and pleasing.

One thing only remains now, and that is the turning of the head. Upon this a great deal depends; the head being the most important part of the portrait, it will make or mar the whole pose.

It may be said that the chief line of the head is really the line in which it is facing, and in this case it is not in a direct line with the camera. Indeed, to gain the maximum amount of animation the three lines of the body, head, and chair take an irregular angle to each other and to the line of the camera, while the vertical lines of the limbs should be broken up with equal variety.—*Amateur Photographer.*

A NEW VERTICAL CAMERA

BY O. G. MASON

DURING the forty-four years since my appointment as official photographer at Bellevue Hospital, 1868, many strange and curious cases have passed through my department of the hospital service. A large number of these cases have been unique and of such a nature that apparatus for their proper illustration could not be found even in a great city like New York. Therefore, it was necessary to invent and manufacture special apparatus for the work. In a great public institution many obstacles are in the way of prompt advance in science or art. The required explanation to parties who know nothing of the necessity of a case and the long time required to wind and tie the red tape early convinced me that the only road to success was entire independence through expenditure of private funds and personal time, and such a course has resulted in a collection of photographic apparatus which is probably the largest in extant fitted for all classes of work from microbes to planets. Parts of this collection have been illustrated and described in photographic journals and year books and another is herewith presented. The illustrations will enable those conversant with optics and photographic apparatus in general to understand its use. A few words regarding the special work for which the parts were constructed will be sufficient.

Figure 1 shows the apparatus as it may be arranged for illustrating small objects, pieces of bone, mineral, fruit and delicate instruments, minute organisms, etc. The square base on castors enables the operator to place the whole in suitable position. Upon this square base a secondary or revolving platform carries the upright standard upon which the stage and camera, adjustable bars for reflectors and condensing parts of the apparatus are easily held in any desired position by thumb screws in the movable sleeve which carry these bars. The bars are perforated and scaled so that reflectors and condensers may be placed in any desired position.

Figure 2 shows the rotating stage in position, all the stages have a free motion across the field in each direction, this circular stage is shown detached in Figure 1. The sleeves are so made that they may be put on or detached from the standard at any point without disturbing any other part of the apparatus. A sleeve lying upon the stage in Figure 1 shows its construction.

Figure 3 shows white card reflector for lighting shadow sides of small objects on the stage.

Figure 4 shows rotating stage arranged for transparent work with reflector placed below at any desired angle by rotating the sleeve carrying the supporting bar. All movable parts are provided with scales so that positions used in producing any effect may be recorded for use in any future work of the same nature. All the bars are perforated at short intervals for receiving wire or wood rods carrying supplementary parts. These perforations are best shown in the bar carried by a rotating sleeve at top of the upright standard in Figure 2. The elevating or depressing of the camera on the upright standard is effected by a long rack and pinion attached to the standard and platform to which the camera is fastened. The apparatus has proved a great time saver in different work.

THE EASTMAN COMPANY AND THE GOVERNMENT

MR. EASTMAN'S STATEMENT

WHAT we view as the main points at issue between our Company and the Government are far from vital to the continued success of the Company. They are substantially three: Operating our retail houses independently of our name, making of certain stencil goods, and our exclusive sales policy.

There has never been any concealment as to the ownership of our various stock houses, and the adding of our name to their stationery and advertising matter will in no way effect them or us.

We have always fought the system of making stencil goods and have, as a rule, refused offers to do it. It is a common custom in every trade but one which works generally to the disadvantage of the manufacturer. It certainly will not hurt the sale of the stencil goods referred to, which we make, to put our name upon them.

As to our exclusive sales policy, we differ from the position taken by the Government. We do not think it illegal or even unethical, and we know it has worked to the advantage of everyone concerned, even to our competitors. One of the main points of this policy (respecting dealers in our patented goods handling no other similar goods) has been to prevent the substitution of goods that are the inferior of ours to unsuspecting customers. However, desiring to avoid a long and expensive litigation, the waste of time of our most important men, and the unsettling of normal business conditions, we are willing to meet the wishes of the Government even on this point.

Although we do not think the recent decision of the Supreme Court in the Bauer case respecting the resale prices of patented goods applies to our policy of selling goods, we propose to alter our terms of sale to the extent of extending discounts only to such dealers as do not compete unfairly. It is not thought that this Bauer decision gives license to piratical dealers to cut prices so as to drive out their smaller competitors, thus ruining them and injuring us by unfair competition.

While in the formal part of the Petition filed by the Government there is a prayer for dissolution, as is usual, I am informed, in all such cases, it is believed that full compliance with the main specific demands for changes of trade methods freely offered by this Company will successfully meet all criticism and satisfy the trade at large and the Government.

Aside from the economic principles which would be violated by such dissolution it can clearly be shown that if the United States is to keep its lead in the photographic art which it has maintained for the last twenty years and meet competition in the markets of the world, the co-ordination of the manufacture of films, plates, papers and cameras must be continued. None except those intimately familiar with the art can realize the interdependence of these different articles as to changes and improvements. Qualities in plates influence results on paper. Changes in film influence, changes in cameras, and so on; and no concern that is unable to furnish products in all of these lines, adapted one to the other, can hope to compete with the great foreign manufacturers who are straining every effort in similar directions. Color photography, which has been developed to a point where for the last six or seven years it has been possible for experts to obtain perfectly satisfactory results, has

proved a commercial failure. Only a concern which has on its staff experts in all the various departments of the art can hope to bring this problem to a satisfactory solution commercially. By that I mean bring it within the reach of the ordinary Kodaker, who is not technically expert. The Eastman Co. has spent already hundreds of thousands of dollars upon this problem, and it is partly the prospect in this line which led it to expend over $100,000 in enlarging its research laboratory, which now has on its staff some of the best experts in the world. It is only a concern that has a varied output that could get the good out of such a laboratory.

The Government has been engaged in the investigation of our business ever since October, 1911, and has gone most exhaustively into the history of the Company and its methods since the inception of the business, and while we do not agree with its view of our sales policy, we realize that there is a chance for an honest difference of opinion upon any such question, and we are bound to say that the Government has been perfectly fair in the way it has conducted the investigation.

AN ULTRA-VIOLET DETECTIVE

A WAY to detect the "raising" of checks by photography with ultra-violet rays has been discovered by Prof. R. W. Wood, of Johns Hopkins University, whose success in using the extreme upper and lower rays of the spectrum for photographic purposes has already been noted in these columns. *The Scientific American* believes that Dr. Wood has put the forgers out of business. Skilful check-raisers use a chemical ink-eraser to remove portions of the written matter upon a check and then insert what they want in a handwriting that closely imitates the original. The chemical eraser leaves no trace of what has been written and makes no change in the texture of the paper. This, of course, refers to what may be seen with the human eye, with or without optical aid:

"However, Dr. Wood has found that the change may be detected by photographing the suspected check by means of ultra-violet rays. He has a piece of paper on which the words 'Twenty-four hundred dollars' may appear. The words were originally 'Twenty-four dollars.' The change was made by an expert who had erased the word 'dollars' and the line after the 'twenty-four' with a chemical ink-eraser and had written the words 'hundred dollars' in a manner so perfect that it was impossible to discover any change in the line, even with the aid of a high-power magnifying-glass. Dr. Wood took the slip of paper and put it under his ultra-violet rays and photographed it, giving it a ten-minute exposure. The result is that a heavy smudge appears before the words 'twenty-four,' clearly showing that something has been erased and something else written in. The explanation is that in removing part of what has been written a stain was left, invisible to ordinary light, but shown clearly by means of the ultra-violet rays.

"Dr. Wood's discovery will be of especial advantage in discovering changes made in documents, such as wills, where it is desired that the knowledge that anything suspected and that an investigation is being made be avoided. It is now possible to discover if a certain sort of chemical has been used by making tests with other chemicals, but the result of these tests is to change the document. Dr. Wood's method makes absolutely no change in the document itself, but the change, if any has been made, shows plainly on the photograph taken by his method."

FLASHLIGHT WINDOW PHOTOGRAPHY

BY HAL G. HALL

It is never flattering to be assured that we don't know what we are talking about. When casually asked as to the particulars in the taking of the accompanying illustrations my veracity has often been seriously doubted, when I have made the statement that the exposures were by flashlight, the simplest and the most satisfactory way in many cases. The first impression in considering the use of flashlight for a window exposure is that the flash would make an unpleasant glare in the picture by reflection from the glass surface. Thus, too tactful to say that I misrepresent, my friends usually intimate that I don't know what I am talking about when I advocate the use of flashlight for window exposures. And since I have explained the really simple procedure so often to incredulous individuals, it occurred to me that the method might be of practical use to a considerable number of photographers, aside from those of my personal acquaintance.

The crux of the whole matter is in the location of the flash, when making the exposure. Needless to say, were the flash set off directly back of the camera, or even slightly to one side, the results of the exposure would be "terrible and wonderful" to behold. But recalling the simplest optical law that "the angle of reflection of a ray is always equal to the angle of incidence," we can very easily overcome the apparent difficulties from reflection.

Usually a window display is to be taken directly from the front and center of the pane of sheet glass, especially if the photograph is being taken for the proprietor of the establishment. In such cases the placing of the flash, or flashes is simple in the extreme. A distance is measured or stepped off from the extreme edge of the window pane, equal to the distance from the camera to the extreme edge of the window pane. Beyond this distance, the flash may be fired with perfect safety from reflection. Needless to say, the direct illumination must not strike the lens surface.

For example, if the camera is set up at right angles to a window, extending six feet to the right and left of the camera, a flash can be fired anywhere more than twelve feet to the right or left of the camera or outside of an imaginary line between the twelve foot distance and the adjacent edge of the window pane. But as such a one-sided illumination gives in most cases, too much contrast and unevenness of lighting, the best results are usually obtained by the use of a generous charge powder at both sides of the window.

In working at an oblique angle to the window panes, as is sometimes necessary, the problem of placing the flash is not so simple to calculate. In such a situation, if one would avoid an unfamiliar problem in geometry, the services of an assistant or passerby can be used to good advantage. The assistant is asked to walk to one side of the camera and away from it with a lighted match or a candle. With the eye by the lens, the photographer can then watch the reflection of the light on the window pane. When the reflection reaches the edge of the window pane and disappears, the assistant is asked to take one more step and stop. The point at which he stops will be the nearest safe location for the flash. And after doing this once or twice, the entire operation

is much more simple and quickly done than the reading of it. Those who have stood for minutes or hours in the cold at night, enduring the attentions of the ubiquitous passerby, will appreciate the saving of time and patience in getting a fully exposed negative in two flashes.

As to the amount of powder to use, this will, of course, vary with the distance, color of subject, lens-stop, plate, and brand of powder. A clue to the proper exposure may be gained from the accompanying illustrations, which were made under almost identical circumstances. There were two flashes to each photograph, the flashes being of about equal volume and ten feet from each side of the window. About 40 grains of Victor powder were used to each flash, with 16 stop in lens. Double coated non-halation plates were used, though these are unnecessary, if no naked lights show in the picture. A few experiments will suffice to give the proper exposure for the particular equipment that one prefers. The essential points of success in this class of work are careful location and generous amount of flash powder.

Frequently it happens that a window is so situated that reflections from the opposite side of the street are as conspicuous in the picture as the window decoration itself. Successful daylight exposures of such situations are only rendered possible by the erection of an inactinic curtain around the window. By night, except in the most modern stores, the illumination is usually harsh and irregular, and even uncovered bulbs are not unusual. If one is in search of freaks of illumination, the average window furnishes a satisfying example by night. And even the most up-to-date windows, with concealed bulbs, require several minutes for full exposures with small enough stop for good depth of focus. But with the method, outlined above, one need not wait a minute longer than actually required for the usual manipulations of camera and flash gun, and no special apparatus is required to insure even illumination. Finally, the minimum of attention from the innocent(?) bystander is well worth more than the slight cost of flash powder.

A NEW COLOR PROCESS

THE Rheinberg process of color-photography by prismatic dispersion can not compete with screen-plate methods, but is of great scientific interest. By this process pictures true to nature can be produced without the use of any artificial color-screen or colored particles. The theory of the process consists in producing by optical means a surface composed of hundreds of complete but very narrow spectra, lying next to one another, the spectra being so close together as to render the individual colors indistinguishable to the unaided eye, so that the surface appears to be white. The photographic positive is used as a mask to block out or weaken those colors which are not wanted, the remainder combining to form the picture. The surface, composed of these contiguous narrow spectra, is produced by allowing white light to fall upon a fine-line screen, of which the opaque lines are three times as wide as the clear interspaces, and forming an image on this screen by means of a lens with a prism just in front of it. The prism spreads each white line into a complete spectrum and is so calculated that the spectra lie next each other on the focussing screen

without interspace. If instead of white light falling upon the line screen colored light is allowed to fall upon it, only those spectrum colors of which the line in question is composed appear on the focusing screen, the colors which are wholly or partially missing from the spectrum of white light being represented by spaces wholly or partially dark. In taking the photograph the image of the colored object is projected by means of any ordinary objective lens onto the line screen, the image of which is in turn projected by the second lens with the prism in front of it onto the photographic plate placed in the position of the focusing screen. The plate must be approximately equally sensitive to all colors, so that the resulting negative is completely darkened when acted upon by any color in its full intensity and partially darkened where the incident color is weakened. A lantern slide positive from this negative will show the reverse effect, being completely transparent where the color has acted with full intensity, of partial transparency where the color has acted less strongly, and opaque where the colors were missing—*i. e.*, in those parts coincident in position with the spectrum colors of white light that were not present in the object photographed. When, therefore, this positive is placed in the exact position of the negative, and white light is projected through the apparatus, it acts as the desired mask to block out those colors that are not wanted, and the picture is reproduced in the original colors. The pictures are taken on a panchromatic plate; a lantern slide is made from the negative and view in the camera.—*Chem. and Drug.*

A THOUGHT FROM RUSKIN

All art is great, and good, and true, only so far as it is distinctively the work of *manhood* in its entire and highest sense; that is to say, not the work of limbs and fingers, but of the soul, aided, according to her necessities, by the inferior powers; and therefore distinguished in essence from all products of those inferior powers unhelped by the soul. For as a photograph is not a work of art, though it requires certain delicate manipulations of paper and acid, and subtle calculations of time, in order to bring out a good result; so, neither would a drawing *like* a photograph, made directly from nature, be a work of art, although it would imply many delicate manipulations of the pencil, and subtle calculations of effect of color and shade. It is no more art to manipulate a camel's-hair pencil than to manipulate a china tray and a glass vial. It is no more art to lay on color delicately, than to lay on acid delicately. It is no more art to use the cornea and retina for the reception of an image, than to use a lens and a piece of silvered paper. But the moment that inner part of the man, or rather that entire and only being of the man, of which cornea and retina, fingers and hands, pencils and colors, are all the mere servants and instruments; that manhood which has light in it itself, though the eyeball be sightless, and can gain in strength when the hand and the foot are hewn off and cast into the fire; the moment this part of the man stands forth with its solemn "Behold, it is I," then the work becomes art indeed, perfect in honor, priceless in value, boundless in power.

TRANSLATIONS AND ABSTRACTS FROM ABROAD

BY LEONARD KEENE HIRSHBERG, A.B., M.A., M.D. (Johns Hopkins)

Glass Negatives for the Movies

The great expense attached to the use of film pictures, their friability and lack of durability, as well as the inflammability that has resulted so often in explosions and dangerous fires, has been an incentive for some time to inventors to discover some safe, simple, and cheap substitute for the film. Strange to say, with Signor Granni Beitina, of Italy, adopted it in his new patent, no one thought it possible to take in a series, a set of motion pictures with glass plates. Yet Signor Bettina has done this triumphantly and in a remarkably ignenious, yet easy way.

His apparatus consists in a simple kodak with a protective dark box at its back which holds a plate large enough to hold 576 photographs and a one minute projection. A crank handle just like an ordinary organ-grinder's. As this is turned the upper left hand corner of the large plate slips into form and the plate moves rapidly upward until forty pictures—this is the number in a vertical column—have ascended. Then, automatically the plate slides to the operators left and descends in the second column for forty pictures, when it again automatically starts upward. There are twenty rows of forty pictures each and the plate ascends and descends alternately without delay, and with none of clicks, noises, and breakes in the picture that are common in film photographs.

Moving pictures made on these glass negatives last practically forever unless some clumsy person breaks them. They have a durability so great, they are so cheap and so safe from danger, that they are expected to rapidly displace all film pictures.

Pictures are taken on these plates just about as they are exposed. Parts of the plate are rapidly exposed in sequence by turning the crank which at the same moment opens and closes the kodak's shutter. The same automatic movement operates the change of position of the plate.

Toning Without Gold

Mr. S. Ficker reports in *Photographie für Alle* that he has had most happy experiences with gold free toning baths. The gold free pictures consist of silver sulphide, to which bodies of greater resistance to chemical and atmospheric influences, which prepare directly an ideal picture material. You can change also silver bromide pictures in silver sulphide pictures by means of hot alum baths or sodium sulphide toning solutions, and thus obtain perfect and unchangeable pictures. The silver, however, must be broken up in the copied pictures in a very fine subdivision or coor colloidal form.

For the guidance of photographers, you can read that you must be careful to double or even triple the time as required by the plates. This present process depends first upon the double salt of silver thiosulphate and sodium thiosulphate. The plates are then clear, but in no way firmly fixed. These double salts dissolve only in an excess of sodium fixing.

By the use of overused fixing baths there is not a long enough fixation as when a certain amount of these double salts remain in the vessel and bring about the well-known demolition of plates and papers. If you now apply this to your toning-fixing baths then the actual basis why you frequently fail to produce durable pictures.

Only about the first twenty pictures which go into a fresh toning bath, can be counted on to make permanent pictures. Those that follow are more or less transient in durability. This is not so much because there is a want of the gold or because sulphur toning has entered on the scene, but because they are insufficiently fixed. The toning has actually ceased and the picture is not one quarter finished.

It therefore follows that the necessary toning bath tones always more quickly and the pictures must always be removed earlier in order to avoid the disagreeably gray nuance. To accomplish this end you add perhaps some fresh gold solution while an addition of fixing soda is necessary once.

The results are still worse, if the copies are not previously well washed out. The excess solution of citric acid and silver nitrate which is in the vessel, combines also its share of fixing soda, so that there follows a much quicker consumption of the fixating properties of the bath.

There comes, then, easily from these directions, the following rational. You must first

wash in water changed about three times, then you tone in a fixing-toning bath up to the desired point, and fix in a simple fixing bath of 150 to 1000 for 3 minutes. Then you renew this bath after, say, 80 pictures 9 x 12. These first copies will appear to many as inconvenient while they are handled only once as a rule, they are now manipulated three times. You can now, without danger lessen the durability, omit the first water application; but the second fixing would also be superfluous if you have a tonefixing bath that would be at least as expensive, as the usual goldbath. This would also have to be renewed just as often.

According to the investigations of the inventor, the following simple toning without gold is combined with all of the desired superiorities:

Water	1000
Fixing soda	200
Lead Nitrate	30

(Dissolved by itself in 200 of water.)

By the addition of the lead nitrate solution, there appears a thick, cheesy precipitate which, however, by shaking quickly redissolves.

The bath is now ready for use and tones like every other bath with gold and gives tones from purplish brown to cold sepia; celloidin tones more quickly than aristo. If you tone no more than 50 pictures in a liter—the price per picture costs only about three cents—they will be absolutely permanent. The toning time must be at least three minutes. For warm brown tones, you must cease even sooner and fix in 15 per cent. fixing soda solution for two minutes afterwards.

The unchangeable qualities of pictures so treated has been tested and proved by numberless experiments. The pictures were laid, for example, upon wet fleece paper and thus left for whole days at a time in the sunlight. They were also smoked with ammonia, and they resisted all of these things. Blue, black and platinotones cannot be produced with these baths.

To Tell Acids from Bases

Almost every high school youth knows that litmus is called an "indicator" because it detects an acid by turning pink, and an alkali by turning blue. Why such "indicators" turn pink or blue has never been fully understood. Litmus is only one of many such substances, and some of them such as the dye methyl-orange are less sensitive, while others such as phenolthalein are sensitive to the weakest as well as the strongest acids.

Dr. John Waddell in a technical contribution to the understanding of these substances which by a change in color, prove the presence of either an acid or a base, says it is strange that methyl-orange, a strong *acid*, should change its color toward weak *acids* in the same way as phenolthalein, a weak *acid* acts towards weak *bases*.

He says it would not be strange if methyl-orange were a weak base and behaved thus towards a weak acid in a way similar to phenolthalein, a weak acid, acts towards a weak base. Dr. Waddell then proceeds to offer an entirely new and original explanation.

According to his theory, methyl-orange is a weak *base*, not as generally supposed, a strong acid. According to electrolytic dissociation, strong alkalis and acids are largely dissociated, but weak alkalis, like ammonia, and weak acids, like acetic acid, are but slightly dissociated. Ordinary ammonium salts are nearly as much dissociated as are the corresponding sodium salts. Indeed, sodium acetate is as much separated in solution as is sodium and chlorine, or sodium and nitrate.

Weak acids exhibit rather hydrolytic dissociations, he says, and very little electrolytic dissociation. Sodium carbonate and ammonium carbonate even more so. Now, phenolthalein is a still weaker acid than carbonic acid, and the ammonium salt has still less electrolytic dissociation. When phenolthalein turns red by the addition of a few drops of ammonia, the color may be "discharged" by adding solid ammonium chloride. The undissociated phenolthalein is, therefore, colorless, and the dissociated anion is red.

If, he says, this is the case, any method which prevents or reduces dissociation, lessens the color. Organic solvents in general give rise to less dissociation than does water, so, if some alcohol or ether is added to phenolthalein, which has turned red from strong ammonia, the color disappears. If water is now added, the color returns.

The red color of phenolthalein is admittedly due to separation of the ions, while the colorless solution is due to absence of dissociation. If methyl-orange is an acid the pink color is due to the association of the ions, and yellow is due to the same thing as the red in the phenolthalein, and the blue in litmus. Everything that diminishes dissociation, changes the color from pink to yellow. Acetic acid gives a red color to methyl-orange, which is changed to yellow by organic solvents such as alcohol. If it is a weak base, this is easily understood. The yellow color is thus due to the undissociated ions, and red is due to the *kation*. Carbonic, boracic, and silicic acids are so weak that they do not dissociate the ions hence the yellow color appears.

Photographing Meteors

Just five years ago this month, the eminent British astronomer, Mr. Denning, writing on meteors in *Knowledge*, said: "Observers of meteors have still to rely upon the naked eye method, the photographic means of observing not being found applicable to general meteoric work." That was in June, 1908. But no more. Much toning solution has passed down the sewer since then, and the photographic

film and plate are far more suitably adapted to recording meteors today, than was ever the human eye.

Dr. F. W. Longbottom, of London, using a reflecting telescope with portrait lenses has, true enough, only gathered pictures of seven meteors in six years, but this "hard luck" was not due to photography, but to the smoky fogs of London. Once upon a time a fine streak impressed itself on a plate, but it was another twelvemonth before "luck" returned and then lo! and behold! two meteors were caught on one plate.

Twenty-five photographs taken at Tuft's College, two miles north of Harvard University, and 31 meteor trails were caught three on one plate! Among the images registered were some interesting explosions, trails surrounded by sheaths of light, and in one the afterglow of a shower of meteoric dust. All of the photographs illustrated the fact that meteors quickly attain a maximum brilliancy and then rapidly decrease. Could the eye ever detect that? I trow not.

Most of Dr. Longbottom's pictures were snapped with the camera pointing toward the direction in which the earth was traveling. Not one "Wend on" meteor has been found on my plates. Nor any very long trail. Whenever he saw a meteor above the third magnitude, he has never missed photographing it. This shows how scarce so large a meteor really is.

A newly silvered speculum of relatively short focus which throws the image directly on the sensitive plate, makes a great meteor trap for a short area. To cover all points, a portrait lens—Petzval type—is best. It is cheap and light and covers fairly. Angular aperture for angular aperture quite beats most anastigmats, since these close so much valuable light through absorbtion and reflection. This is due to their many surfaces and the amount of dense glass in them.

Finally the photography of meteors is so simple that it deserves front rank in the amateur's programme.

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"THE STREET OF THE GAMBLERS BY DAY"

BY ARNOLD GENTHE, N. Y.

EDITOR'S TABLE

PUBLICITY

IF you have anything to dispose of the only way to do it is to let people know about it. If you deal in a certain commodity it is highly necessary that everyone should know it, so that when they are in need of the goods you have for sale they will be prompted to think of you. This plan of notifying the public that you want to sell them certain goods is called advertising, and a great deal has been written about it, both in a general way and as applied to photographers.

But the methods that are used by commercial concerns are not at all applicable to the professions. It is considered extremely unprofessional for a lawyer or a minister to advertise himself, and a doctor who does so is liable to be given the name of "quack." A photographer may advertise himself to such an extent that when the average customer wants his or her picture made they first think of a certain attractive advertisement, and go to that place for work.

But the secret of success for every professional occupation is not so much constant advertising as it is publicity. A photographer gets more business through his reputation than he does through an advertisement; at least, more steady and lasting business. Therefore, it is the fact that a mans' work is in demand because it is known to be good, not because he advertises it to be so.

That condition of affairs which will contribute most largelv to a photographer's success is publicity; in plain words, when the attention of the public is forcibly called to the fact that you are doing work that is unusually good, and that the subject of pictures can hardly be touched upon without mentioning you and them favorably. It is not sufficient alone to have a good reputation, although that is the first step, but it is necessary that as many people as possible shall *know* that you have a good reputation. This is publicity.

There are numbers of ways to get this, and each may have his own ideas as to how it can be done most efficaciously, but in order to stimulate some original thought along these lines we venture to suggest a few of the methods that have been used successfully:

By putting in the show-case an occasional novelty of a striking effect that will attract attention and cause talk.

By using a good customer, who is influential in the community, for experimenting a new lighting or pose, and then, if she is pleased with the results, give her enough of the pictures to win her good opinion.

By trying and exhibiting new kinds of prints, cards, and the many "tricks" that are exploited in the various magazines and which may not sell, but which will make people notice you.

By having pictures of public people exhibited or printed or shown in any way, that

the attention of the public may be called to the enterprise or ability of the photographer.

And the best way of all: By sending an exhibit to a convention, letting the public know that you have sent it and gone with it, and if you take a prize also let that be known far and wide. It is not the best policy to do the talking yourself, but see that others do it. If you can do anything extra well, let it be given publicity, for that is the thing that brings the business, and that is what we are looking for.

There is absolutely no better kind of publicity for a photographer than to have it well noised about that he has made an exhibit at a convention, and has been adjudged by his confrères to have made work that was worthy of a prize and honorable mention.

The public will naturally conclude that the judges were competent to critise a picture, and their opinion is worth consideration by the public. There is no form of publicity more professional or more valuable, and the photographer who declines to take advantage of an opportunity to gain it is standing in his own light and putting impediments in the way of his own success.

The Value of Fraternity

It is interesting to observe the workings of the fraternity idea among professional photographers.

As we all know, the word fraternity means brotherhood—the union of many individuals striving for a common end by common means. In photography the theoretical end proposed is twofold, embracing the prosperity of the profession and of the individuals of which the profession is composed. Practically, and it is here that the matter becomes interesting, the individual photographer is apt to selfishly regard his own personal aggrandizement as the end of fraternity, and the general welfare of the profession left to take care of itself.

Now, the mainspring and essential idea of fraternity is reciprocity—*the mutual interchange of helpfulness*—not selfishness, and it is our firm conviction that the application of this general but mistaken notion would open out a way by which professional photography could be made a still more lucrative and profitable business.

It should be quite unnecessary for us to point out that, for those pursuing a common end by means common to all, fraternity is the only key to success. The natural end of fraternity as a working force is success. But we must have true fraternity, with reciprocity as its mainspring, or the end cannot be attained. When selfishness is made the end of fraternity, or when the personal benefit of the individual is made the cause of action, we immediately have individual fighting against individual, fraternity is perverted from its natural end, and the result is disruption and disorganization. This means disaster to the individual as well as for the body or profession.

Wherever we have any interchange of communications between photographers, or where several photographers are working within a prescribed field, as in a city, we may study this idea of fraternity, and determine its true character. If we find true fraternalism existing, prosperity and mutual benefit are assured. If, on the other hand, we find the spirit of fraternity invoked for personal gain, just as surely we may predict disaster. The remedy is plainly evident. First: let the photographers in our cities cultivate a more fraternal spirit, and, surveying the field of effort from their various points of view, agree upon some change of methods based upon harmony. The exercise of true fraternalism on the part of the more powerful or influential workers would make a still more desirable adjustment possible. And finally make the photographic journals serve as round-table conferences for the furtherance of photographic prosperity. They are published chiefly to accomplish that desirable end, and should prove a power in the land for the benefit of the fraternity if photographers would co-operate. This is a work which appeals directly to the individual photographer regardless of his position or standing. If the journals could be filled with the *practical experience of practical workers,* if the printers, the operators, the retouchers, the reception-room attendants and bookkeepers, together with the proprietors of our galleries, would but work together in this way, there can be little doubt that the profession could be raised to a still higher level—as a business, as an art, and as a science.

Criticism

If the successful photographer is asked as to the causes which have helped him he will

invariably include, and often give a prominent place to, the hints and advice of his friends. He is right; the suggestion from one who has understanding to give it is a very necessary part of our education, and happy should be the man who can claim it.

Just think about this same advice. The result of it is to help the photographer to better work, and therefore the logical conclusion is that the work has faults, and that these faults have been pointed out. The work may not have been condemned, but it has not been flattered. The man has had a sitter in his studio, and he has done his level best. The sitter is pleased with the result—so is the photographer. The friend—the brother photographer, probably—looks at the picture. He has not been concerned in the manufacture of it, and so is better able to see at a glance if anything is out of gear. As a photographer he may appreciate the work and thought which has been put into the print, but as a "candid" friend he puts his thumb over one spot in the print. It may be that the producer of the print at once notices the fault, or there may be some discussion on the point. More than possibly, it will be decided that after all the fault is no fault. In any case the discussion settles the point, or at least leaves it simmering in the photographer's brain to be finally decided later. And so, if it was a fault—and often enough the photographer decides that it is—it will not run through his work until the end of things.

How many photographers are there who do *not* welcome that kind of advice commonly called criticism? Very many; we almost fear a very large majority. How common it is to be shown a picture—or a score of pictures—by a photographer who asks your opinion when he means that he is fishing for flattery. It is a rather puzzling attitude. It would have been thought that a photographer would have welcomed rather than resented criticism. And doubly so, since it can scarcely be denied that the inertia of thousands of photographers as to the quality of their work is one of the leading causes why so many of them are in an insecure position; in dread of the other man and in hatred of the amateur.

Criticism is not always an easy thing. Very often a man's work would require an essay to point out what is the matter with it. For sometimes a man will show work which plainly says that he has attained a fair proficiency in the technique of photography, and yet has not grasped the most elementary meaning of picture-making. How can you tell him such a knock-down fact without making him angry?

There are several things necessary if a photographer would rise. He must always keep a wide-awake and alert brain around his work, and he must feed and educate his brain with the books and the opinions of others. In some respects the spoken opinion is preferable to magazines—both are necessary. In the magazine it is so easy to read the faults of others, and this is comfortable but not helpful; in an honest criticism we read our own faults or mistakes. A magazine ought rather to start a thought than to dogmatize a fact; and it is so easv to evade the thought and pass on to the next page. In a conversation the effort to think is forced and is followed up.

The good fellowship which has been so much fostered by the conventions has already led to more than one organized club where photographers meet and exchange opinions; and it has created quite a habit in a few cities of intervisiting among the galleries. It is a good movement, and should be helped along. The exchange of criticism is mutually helpful, and none can judge the points which make or mar a photograph as well as can a fellow-worker. Let us then have done with the old notion which angled for flattery and preferred a blind self-deception to the healthy pleasure of knowing one's work and knowing that it is good.

ACKNOWLEDGMENT

WE desire to acknowledge due and full credit to *The British Journal of Photography* for reprinting the following articles, which appeared recently in this magazine, and to assure our valued contemporary, and our readers, that this omission was a regrettable oversight, for, as is known, WILSON'S seeks to be always most punctilious in this respect:

"The Care of Originals," p. 176, April, 1913.

"Sensitizing Methylene Blue and Bleach-out Pictures in the Camera," p. 177, April, 1913.

"Something Fresh," p. 193, May, 1913.

"Negative and Printing Process," p. 194, May, 1913.

NOTES AND NEWS

A PROCESS has been devised, says *Printing Art*, that has proven very satisfactory, and has to do with the photographing on medium rough ground zinc plate. It has been found very difficult to develop an albumen print on rough zinc on account of the ink settling down in the small but deep interstices which cause the roughness. This may be fully overcome by first making up the following solution:

Ammonium Bichromate	300 grains
Albumen, desiccated	2 oz. dry
Le Page's glue	1½ oz.
Water	40 oz.

After mixing this in the usual way and filling, coat the plate, whirl till dry, and print according to the density of the negative. Then take the print out of frame and instead of rolling up with ink, wash it out with asphaltum or Mogul varnish, fan dry and then roll up with a leather roller using one-half crayon and one-half good black printing ink, thinned out with a small amount of O varnish. This treatment pulls out every particle of unexposed solution and ink, caused by the tremendous suction of the grained leather roller, and leaves the dot, clear, hard and square stenciled on the zinc with an asphaltum base, which will stand the roughest kind of treatment and enables one to pull many more impressions from the plate than by the old way of developing with a cotton wad. There are several establishments using this process with the greatest success, but this is the first time it has been published so far as the writer knows.

PRINTING QUALITY

THERE is such a thing as having more quality in a negative that you can produce in the print, but this is not true with Artura.

If you have to sacrifice negative quality to get passably good prints, try Artura. If you have already sacrificed negative quality, go back over your negative files and select one of those beautiful negatives you used to make for Artura or Albumen, and make an Artura print from it. You will get in the Artura print the quality you have in the negative.

BE frank and honest with yourself. If you really do not know how to go on with your work, do not be ashamed to ask for information.

RECENT years have witnessed a steady increase in the popularity of Goerz lenses and cameras. The vast numbers of anastigmat lenses, amounting to nearly 350,000, sent out from the C. P. Goerz factories during the last twenty-six years, have gone into all parts of the world, giving splendid service under every condition of temperature and weather. Many of the lenses manufactured in our earlier years are still in use—a fact which speaks volumes for the careful selection of optical glass, which is such an important factor in maintaining the reputation of their goods. A copy of the new complete catalogue will be sent you on request by addressing the C. P. Goerz American Optical Co., 317 E. 34th St., New York.

WE are interested to learn from the Wollensak Optical Co., of Rochester, that they are preparing a new art book on their Verito lens —"the lens that improves on acquaintance."

The principal article is to be written by Mr. Arthur Hammond, formerly of Boston, now of Nattick, Mass., perhaps the best known author on articles dealing with soft focus lenses in this country.

In addition to this valuable article there will be a number of shorter ones by such well-known photographic artists as Dr. M. D. Miller, Boston; Walter Burke, Sydney, Australia; Albert Kelly, Toronto, Canada; H. Oliver Bodine, Rochester, N. Y., as well as a great number of short notes on this distinctive objective from artists throughout the world.

The illustrations will be twelve in number printed on the finest coated paper and are reproductions of Verito prints by Messrs. Garo, Towles, Hammond, Weston, Miller, Maerz, Ellis, Rau and others.

The balance of this beautiful book will be made on hand-made Japanese paper printed in two colors and tied with silk.

The edition will be limited and copies will not be sent out promiscuously, nor to dealers for distribution, but will be distributed to them personally at the various photographic conventions, and will be sent to dealers' customers who might be interested in the Verito but only upon receipt of their request.

A PRINTING MASK CHART

While a very simple and inexpensive article, we believe the Eastman Printing Mask Chart will prove of great value to every photographer who has had occasion to cut a mask for a negative. There is no question as to the time it will save, and by following

the lines of the chart, the opening of the mask must of necessity be accurate. The chart is printed on each piece of the mask paper, the ruled lines making it possible to cut a mask with any size opening for 8 x 10 or smaller negatives. The mask charts sell at 15 cents a dozen. Have your dealer send you a package.

A LEADING pioneer in the movement for the development of the photographic lens was the Bausch and Lomb Optical Company. The activities of this firm had, from the beginning, a very important effect upon the advancement and popularization of photography in America.

Prior to the early 80's most of the photographic lenses used in this country were imported from Europe. But these were high in price, and the problem before these American pioneers was that of attaining the quality of the foreign lenses and of reducing the cost to the photographer. Long study and experiment resulted in the production of photographic lenses of high-grade that merited and gained the American photographers' enthusiastic welcome.

In the early 90's the Carl Zeiss Optical Works, of Jena, entered the photographic field and introduced the anastigmat lens, invented by Drs. Abbe and Rudolph, and patented in this country. Recognizing their position in the industry, and desiring to enter the American market, they made an agreement with the Bausch and Lomb Co. whereby they, as their licensees, began to manufacture and sell these new lenses under their formulæ.

This relationship with the Zeiss Works gradually became strengthened until in January, 1908, a corporate alliance with that company concentrated the resources, the experience and the energies of the two leading optical firms of the Old and New World.

The practical result of this closer union is that every invention or improvement made either by Zeiss or by the Bausch and Lomb Co. is at once available to the other. The free interchange of ideas and of methods is an advantage to each centre of progress—an advantage amply demonstrated in the successful advance of these initial years.

The complete and attractive catalog which comes to us aims to place before those who are interested in photographic lenses brief information of the wide range of our products in this field. For those who may desire fuller information on the portrait Unar or photo-engraving lenses, they have prepared additional literature which they are glad to send on application.

A PRIZE contest is being conducted by the manufacturers of Hydra Plates in which the amateur and professional compete on an equal footing. While it is not a condition of the contest that any specific kind of plate be used, by using Hydra Plates the amateur can greatly overcome any advantage that superior knowledge of photography might give to the professional. It is claimed for Hydra Plates that they cannot be over-exposed—that when the shadows are exposed for the highlights take care of themselves. As a result, Hydra Plates make possible the photographing of most unusual and beautiful scenic effects.

For the second best photograph, a prize of twenty dollars is offered; for the third best, ten dollars; for each of the fourth, fifth, sixth and seventh best, five dollars. The contest is open to all. The manufacturers of Hydra Plates wish it understood that it is not a condition of the contest that these plates be used. They simply recommend them because of the aid they will give.

A NEW STUDIO REGISTER

IN the future when you have the pages of your studio register filled with orders, it will not be necessary to buy a new one. Use an Eastman Loose Leaf Studio Register, and when it is filled, remove the leaves and put in a hundred new ones.

The 100 leaves are ruled on both sides, giving 200 pages for the recording of orders. There is also an alphabetical index, which simplifies the location of orders when duplicates are wanted.

The strong board covers are surfaced with pebbled cloth, the corners and binding being of 100 extra leaves with index, $1.25. Your Leaf Register is listed at $2.50, the package of fine grained leather. The Eastman Loose dealer will be glad to show you this new register.

WE take pleasure in announcing that Burke & James, Inc., new Style C Ingento Rapid Printer is now ready for the market. This machine embodies two printers in one, it being used with equal facility as a semi-vertical or flat bed printer. When used as a semi-vertical machine it automatically ejects each exposed print into a receiver which is supplied wth the machine, and can be readily attached or detached. One of the main points of advantage of this machine over the Style A, which it supersedes, is the fact that the entire interior of the printer is lined with brilliant reflecting mirrors insuring the maximum light efficiency and making possible the printing of the professional papers, such as Cyko and Artura in from two to five seconds. Provision is made for the use of 6 incandescent bulbs. Twenty-five or 40 Watt Tungsten or Mazda bulbs are recommended because of their high light efficiency and respectively small consumption of current. The printer is supplied with a non-actinic bulb which burns alternately with the printing light. A ground glass is also supplied with the printer, and 6 grooves are provided for varying the distance between the lights and the printing bed. Vignetting, dodging, etc., can be easily accomplished with this printer in either position.

The price of the new printer is $20.00, which is very low considering the numerous advantages which it offers over the previous styles. It is the sort of instrument which will quickly pay for itself through the saving of time and labor, and because of the uniform results which it make possible.

JOHN G. HOOD, for many years well known to photographers and dealers, died at his home in Philadelphia on May 3d.

Mr. Hood was born in 1837 in Penns Manor, Bucks Co., Pa., the family moving to Philadelphia in his boyhood; he began his business life under Mr. F. Gutekunst, perhaps the oldest photographer in Philadelphia.

In the early sixties, he engaged in business on Arch Street, Philadelphia, with Mr. Edward L. Wilson as wholesale and retail dealers in photographic supplies, forming the firm Wilson, Hood & Co. A prosperous business followed for many years and it was during this time that Mr. Hood became well known by so many friends throughout the South and near West. Later Wilson, Hood Company was succeeded by the Cheney, Hood Company. Mr. Hood was later associated with the John Haworth Company.

Bearing in mind the fact that better negatives are made with cameras producing smaller negatives than 2 x 3 inches, the Victor Animatograph Company, of Davenport, Iowa, has produced an instrument known as the "Viopticon," for use in conjunction with these small cameras, thereby making the "miniature" camera the most practical instrument on the market, with advantages, ten to one, over all other sizes of cameras.

The "Viopticon" is an instrument which when used in connection with a miniature camera opens a *New Era* in the photographic field.

Mr. A. F. Victor, inventor of the above, has practically devoted his life to the invention of scientific instruments, and the "Viopticon" bears all the "ear marks" of his inventive genius. In the "Viopticon" any negative 2¼ x 2¾ or smaller, can be enlarged up to any desired size, with no more trouble than is required to produce a contact print of the same size, and it is a marvelous fact that at 8 x 10 inches, better results can be obtained by this method, than can be obtained by direct negative and print making with an 8 x 10 camera.

The same negatives that produce the enlargements, can be placed into a printing frame with a lantern slide plate, and by contact a slide can be made in the same way, and with no more trouble than is required to make an ordinary "gas light" contact print. This slide can be placed in the same instrument (the "Viopticon") and in the same position that the negative was placed to produce the enlargement, and a picture projected on a screen, up to 15 feet square, giving equal results to those obtained by regulation size stereopticons using standard size slides.

The advantage lies in the fact, that at any time, day or night, these miniature cameras can be carried in the pocket of a coat unnoticed, and photographs of the finest quality produced by holding the camera in the palm of the hand. For night work small hand flash-light machines are used, in connection with the camera.

THERE are many preparations placed on the market for the development of dry plates, but for this purpose, we cannot but recommend Hauff Metol. We understand that the American agents, G. Gennert, New York, Chicago and San Francisco, publish a very interesting little book entitled, "Hauff on Modern Developers," which will be sent postage pre-paid upon request.

WILLIAM MCFARLANE NOTMAN, a life-long resident of Montreal and head of the firm of William Notman and Son, Photographers, died on May first, in his home, 22 Summerhill Avenue.

Mr. Notman was 57 years of age and was well known not only in Montreal but in many parts of the Dominion for his skill in art photography.

REPORTS OF SOCIETIES

THE PROGRAM, 1913 CONVENTION OF THE P. A. OF A., KANSAS CITY, MO., JULY 21-26

Monday, July 21st, 1913—

1:30 P. M. First session of Congress of Photography.

3:00 P. M. Opening Business Session: Address of Welcome; Response; Introduction of Studio Staff and Officers of State Associations.

4:00 P. M. Opening of Studio.

8:00 P. M. Officers' Reception at Baltimore Hotel.

Tuesday, July 22nd—

8:00 A. M. Adjourned Session of Congress.

10:00 A. M. Business Session.

10.30 A. M. Lecture—Frank Jewell Raymond.

1-5 P. M. Studio open in all departments.

3:00 P. M. Auto ride for ladies, given by Kansas City Photographers' Association.

8:00 P. M. Illustrated Table under the auspices of Commercial Federation.

Wednesday, July 23rd—

8:30 A. M. Breakfast for the ladies, given by Miss Reineke at her studio.

9:00 A. M. Session of Congress—Demonstration for Commercial Federation in Studio.

10:30 A. M. Business Session.

1-4 P. M. Studio opens in all departments.

4:00 P. M. Session of Women's Federation.

4:00 P. M. Meeting of State Associations at their various headquarters.

Wednesday evening at Electric Park guests of Kansas City Photographers' Association.

Thursday, July 24th—

8:45 A. M. Studio open.

11:00 A. M. Business Meeting.

Thursday afternoon and evening open to public.

3:00 P. M. Auto ride for ladies, given by Kansas City Photographers' Association.

8:00 P. M. Miss M. Beryl Buckley will present her own interpretation of F. Marion Crawford's "In the Palace of the King," under the auspices of Women's Federation.

Friday, July 25th—

8-10 A. M. Studio open.

10:00 A. M. Business Meeting—Election of Officers, selection of next place of meeting, etc.

Friday afternoon given over to Manufacturers and Dealers.

Studio open all afternoon.

2:00 P. M. Business Meeting, Women's Federation—Business Meeting, Commercial Federation.

3:00 P. M. Auto ride for ladies, given by Kansas City Photographers' Association.

8:00 P. M. Lecture—The Profit Side of Photography and Studio Organization—J. C. Abel.

Saturday, July 26th—

10:00 A. M. Closing Session—Unfinished Business only—Adjournment.

PHOTOGRAPHERS' ASSOCIATION OF NEW ENGLAND

Mechanics' Building, Boston, Sept. 2-3-4, 1913

The executive board have arranged a program for the coming convention which is rich in Educational Features, and to that end are securing several experts of National reputation.

The Grand Portrait Class, for one 8 x 10 or larger, open to the world with a prize of a solid gold medal, will induce many to exhibit, and a study of that class alone ought to be of great value to the ambitious student. There will be exhibits in portraiture, genre, landscape, marine, animals and pets, autochromes, etc., and a very large loan collection of beautiful and magnificent photographic work secured from the leading workers of America.

All photographic exhibits will be passed upon by a jury, and a certificate of honor given to each contributor whose exhibit is approved by them. The manufacturers and dealers will have exhibits of their standard goods, and the latest innovations in improved appliances for our inspection.

The entertainments given to the members have always been of pleasure and interest; there will be new features introduced for this year.

The Wollensak Co. are to give a prize (under their supervision) for the best work made with their lenses, particulars to be given later.

The New England conventions have been exceptionally praiseworthy in their educational features, and the practical demonstrations, lectures, criticisms, discussions, etc., at stated hours will keep the N. E. Ass'n in the front rank as heretofore complimented upon.

Get Busy on your intended exhibit, and help make this collection of portraiture, and special line of individual work a notable one in the history of the association.

GEO. H. HASTINGS, Sec'y,
Haverhill, Mass.

WITH all but one of its members present at the annual meeting recently held at the Powers Hotel, in Rochester, the Executive Committee of P. P. S. N. Y. showed a fine get-together spirit and much enthusiasm for

the convention to be held next February in Buffalo.

Those present were: A. B. Stebbins, Canisteo; Carl K. Frey, Utica; Irving Saunders, Rochester; Thomas Smith, Niagara Falls; F. P. Ernsberger, Auburn; B. Boice Proxy, Troy, F. E. Abbott, Little Falls; J. E. Mock, Rochester; J. E. Hale, Geneva; F. E. Pearsall, Brooklyn; Frederick Robinson, Ithaca; and Howard D. Beach, Harry A. Bliss, J. George Nussbaumer, Charles Zimmerman, Frank J. Sipperell and Robert R. McGeorge of Buffalo.

Former President Harry A. Bliss was elected chairman. Reports from all showed that much interest is being taken in the coming year's work.

The idea of a print interchange between the sections was eagerly taken up. The sum of $50.00 was voted to President Beach to be used by him in visiting the sections. Metropolitan section was given much credit for the way in which it has handled the past nine conventions and the men from up State feel the responsibility of making the tenth at Buffalo a winner in every respect. It is too early to give details but the committee has outlined a program which taken with the natural attractiveness of Buffalo and its vicinity, not forgetting Niagara Falls should make a strong bid for the attendance of every professional photographer in the State of New York.

ROBERT R. MCGEORGE,
Secretary.

THE members of the Professional Photographers Club of Toledo, sat down to their ninth annual banquet in the Grill Room of the Boody House, May 12th. Its membership is made up from the photographers of Toledo and surrounding towns, and includes five ex-presidents of the Ohio and Michigan Association. It exploits new processes and apparatus and in many ways has better social and business relations among its members. Its nine years of regular monthly meetings is evidence of its usefulness. It starts its tenth year with renewed interest and vigor.

GEO. B. SPERRY,
Secretary.

THE CLEVELAND CAMERA CLUB

At a meeting held on June 7 a temporary organization was effected, Horace Carr was elected chairman and A. D. Williams Secretary-Treasurer. Dr. J. E. Tuckerman and A. D. Williams were appointed a committee to draw up by-laws and regulations, and J. C. Abel, Geo. M. Nisbett and F. C. Baker a committee on scope to act with the committee on constitution. Leland C. DeGroodt and A. D. Williams were appointed to look up the matter of quarters.

The dues of the temporary organization were tentatively fixed at one dollar per month.

A. D. WILLIAMS,
Secretary-Treasurer.

POINTERS ON DEVELOPERS

"Don't never prophesy onless you know!" — *Lowell.*

THE BERGHEIL TOURIST, a new metal folding pocket plate camera, is a superb instrument in every detail, combining superior construction, elegant appearance, and excellent optical equipment at a price within the reach of every amateur desiring a high-grade outfit.

The body is aluminum covered with morocco leather, the metal parts are finished in ebony and nickel-plate. The standard is U-shaped, affording the maximum rigidity, with an extra broad track. The bellows is of genuine leather and has a focal capacity of 11 inches, which permits the use of the rear combination of the lens alone, giving an image double the size obtained with the complete lens. It is also fitted with a self-acting bellows support which prevents sag when long extension is used.

The bed is double extension, operated by a positive rack and pinion. Upon opening the camera the lens can be brought into universal focus instantly without reference to the focusing scale.

THE ANSCO AMATEUR PRINTING MACHINE supplies a long felt want of the amateur photographer, as well as the commercial photo finisher, and combines several novelties of invention which have not heretofore been used in connection with printing apparatus. It is a substantial printing machine capable of turning out as good work as any of the large, cumbersome, high priced, professional pieces of apparatus.

It consists of a box containing two electric lamps, one a sixteen candle power lamp for the exposing of the print, and the other a small ruby pilot light. When the lift is

raised and the negative and paper are being placed in position, the ruby lamp is burning, thus affording the operator an opportunity of looking through his negative and properly placing his mask and paper. The action of closing and locking the lift extinguishes the ruby light and automatically turns on the white light. After the proper interval for printing has elapsed, the release of the simple catch automatically raises the lift, extinguishes the white light and again puts on the ruby light. It is designed to take any size from a 5 x 7 down, and will give equal illumination throughout the surface. Special design provides for proper ventilation and consequently overcomes any possibility of overheating.

One of the novel features of this piece of apparatus is that in addition to being a practical printing machine for all classes of work, it is also a practical dark room lamp. For developing film or plates, the light passes through a thickness of orange and ruby fabric, thus giving a perfectly safe light for the most sensitive plate or film. When developing prints, the small frame which contains the ruby fabric is removed from the front of the box, leaving only the orange fabric intervening between the light and the developing tray. This gives additional light to work by, while at the same time being sufficiently safe for all classes of developing paper.

The outfit is packed neatly in a compact box, and is furnished with six feet of lamp cord, with suitable plugs at each end to connect printing machine with nearest electric light socket.

Full directions for the exposing and developing of prints will be found in our Cyko Manual, copy of which may be had upon request from all Ansco dealers.

When people see you take interest in your work they also become interested.

CANADIAN photographers, amateur and professional, are requested to write Messrs. Hupfeld, Ludecking & Co., 3 St. Helen St., Montreal, for particulars regarding the "Agfa" products.

Messrs. Hupfeld, Ludecking & Co. are the Canadian agents for all "Agfa" photographic chemicals.

USE the best of everything; there is nothing cheap in photography that is serviceable.

PHOTOGRAPHY is rich in chemical formulæ; it has a stock on hand good for a hundred years, and the sooner photographers learn to depend less upon formulæ and more upon æsthetic culture the better for the future of the art. Let the brain make the conception and construct the picture under the light, and take it afterward, and a gratifying success will be sure to follow.

Cleanliness and order, tact, courtesy, cheerfullness, however trying things may be; a thorough grasp of all the details of the business; resittings, if necessary; careful printing and finishing; all proofs promptly sent out, and none sent out unretouched or unfixed—such details properly attended to, go far toward a successful business.

Remember that roundness and modelling should not be the work of the retoucher, but should be obtained by careful lighting and a full exposure.

Remember that in cold weather solutions should be warmed and strong; in warm water they should be cooled and diluted.

A CONTEST in which the amateur and professional photographer start on an equal footing is being conducted by the manufacturers of Hydra Plates.

This contest should create widespread interest among all those interested in photography.

It is claimed for the Hydra Plate that it is impossible to over-expose and that a perfect exposure can be made regardless of the position of the sun. This makes it possible to photograph the sun and surrounding landscape and at the same time retain the correct shadow details and light and shade contrasts. Hitherto this has never been successfully accomplished. Such a radical advance in the art and science of photography is this and such a broad field does it open that its possibilities are hard to compute. Some highly interesting results are expected at the close of the contest.

In so much as the plate through the very nature of its construction takes a care of the highlights every photograph is what might be called technically perfect. Hence amateur and professional are brought to the same level. That fineness and little touch of extra skill in which the true merit of a photograph lies is at the disposal of both alike.

Therefore, particular attention to scenic beauty and originality of the subject treated will be a factor in deciding the final award. Name and address must be written on reverse side of photograph. All photographs submitted are to become the property of this Company. *Contest now open, closes September* 16th. The Herbert & Huesgen Co., 456 Fourth Ave., New York City, offers to send booklet containing particulars and prices if same cannot be procured at dealer.

A LONDON CHILD

BY SHERRIL SCHELL

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. L AUGUST, 1913 No. 8

SHERRIL SCHELL AND HIS PHOTOGRAPHY

BY ARTHUR BRANDON LORING

IT is now almost three years since Sherril Schell turned his attention to pictorial photography, and in that comparatively short time he has gained for himself an enviable place among the more advanced workers in the craft. True, it is that his experience in the journalistic field was a preparation, for his art criticisms in such magazines as The American Architect, House and Garden, Hampton's, must have necessitated wide reading and study for their writing. This phase of Mr. Schell's career must be reckoned with as a part of his apprenticeship. Although he has made tremendous strides in the technical side of the art within three years, the qualities in his pictures that make them at once attractive and compelling to the beauty lover should be credited to that which Whistler called "the knowledge of a lifetime." A sensitive feeling for tone values, a swift eye for composition, a gift for seeing beyond the obvious, Mr. Schell did not learn these within three years,—long before he ever peeped into a ground glass they were an integral part of his makeup. He brought the necessary equipment of the artist to photography and as he gains firmer control over the medium so his interesting individuality expresses itself more freely.

If there is any particular national influence that marks his work it is German or Dutch rather than American. His breadth, simplicity, unconventionality, fertility of invention and vigor of style recall such work as that of Duhrkoop or Hugo Erfurth, for instance, rather than the poetic and intense refinement of a Clarence White.

It was in looking over some prints of Alfred Steiglitz that the inspiration came to Schell to be a photographer. "One day I went to the Photo-secessionist room to see the Rodin sketches on ex-

hibition there. After I had looked them over, my atention was attracted to some photographs lying on a table. They were exquisite, and a perfect revelation to one who had only been familiar with the more ordinary work of the camera. They were photographs by Alfred Stieglitz. I carried those pictures in my mind for days, and indeed I can see them now just as vividly. Their beauty was so insistent that I immediately began buying copies of Camera Work and other photographic magazines to find reproductions of Stieglitzes. Soon after I invested in a camera and started to work. I took lessons for a month of a Third Avenue photographer in New York where I learned a few rudiments, then I heard that Clarence White was giving lessons in his studio. He was good enough to let me join his class. Unfortunately it was impossible for me to go there more than three or four times as my regular work prevented. It was a bitter disappointment as there is no one for whom I have greater enthusiasm than for Clarence White, both as artist and as man. Whenever I had the opportunity I pegged away at the work, trying hard to learn the cause of my failures and how to remedy them. The blackest discouragement would very often follow on the heels of most painstaking effort, but always there would be the modicum of success that spurred me on. After a few months I rented a flat on Lexington Avenue that I fitted up as a studio, where I did my writing and continued my experimentation. Now and then I would show some of my prints to friends and they were enthusiastic enough to bring sitters. That was my beginning as a professional."

Schell is an ardent believer in the radiant future of pictorial photography. He insists that all photographs should retain the peculiar characteristics of the medium and not be imitative of other processes. "It is only an insult to one's medium," he says, "to force it to resemble another." He is therefore a firm supporter of straight photography, and needless to say has no patience with etched in backgrounds and other hybrid methods. "Photographers who have done this sort of thing have only retarded progress in the art, indeed the difficulty has never been with photography itself but rather with some of its so called interpreters." On the other hand such artists as Kasabier, de Meyer, Stieglitz and White have been of the most incalculable assistance to an art that has been in more or less of a tottering condition since the days of Hill. These great workers are carrying on the torch, and what a light theirs is to guide the rest of us!

As to the more technical side of Schell's work it may be noted that he uses two lenses, a Smith and a Cooke. As a rule he uses the Smith lens stopped down to F. 8 or F. 11, and the Cooke at its widest aperture. In this way he retains a certain uniformity of quality in all his prints. Quality of light, subject, and the particular scheme of composition he has in mind, determine his choice of lens. For the most part he works in platinotype, but now and then to gain a certain effect he uses Kodura and other gaslight papers. His studio in London, where he lives during the summer, has no skylight. The windows are long and wide. The light is controlled by shades that pull up from the bottom and is diffused by cheesecloth curtains. The walls are tinted a soft, light grey and the woodwork white. There is absolutely no air of the old-fashioned "gallery" about his studio. An etching by Brangwyn, an original Orpen, with probably two or three photographs constitute the only wall decorations. The atmosphere is that of a dignified and pleasing workshop. Schell has struck the happy medium between the too business-like studio (so terrifying to the average sitter) and the over aesthetic surroundings of the affected portraitist. When the sitter arrives there is no sign of camera or accessories. These are quietly brought from another room when needed. This photographer only receives sitters by appointment and never has consented to take more than one a day. In order to do his best work, he believes the photographer should not undertake too much.

PROFITABLE SIDE-LINES FOR THE PROFESSIONAL PHOTOGRAPHER

III. CASHING IN THE BABY

BY A. E. SWOYER

EVERY baby born into a community should add as much to the yearly income of the photographer as would a Government bond snugly tucked away in his strong box; unlike the bond, however, the surety for this income lies in the efforts of the photographer.

Very few studios fail to realize this and efforts are made to capture this business in a degree depending upon the acumen of the practitioner; on the other hand, these attempts are frequently neither persistent nor consistent, and many good shekels which should end their shining careers in the pockets of the photographer find their ultimate destination elsewhere—which, of course, is not as it should be.

Baby's arrival is invariably chronicled in the columns of the local paper, which should serve as the enterprising photographer's market report and as well as to locate his future customer; once located, several courses may be followed. One of the surest business getter's involves a trifle of expense at the start, which will return to the photographer many times over; this consists in mailing to the parents immediately a so-called "Baby Book," which may be simply a cheap photograph album with "Compliments of ————, Photographer" printed or written *inside* of the cover—at the same time a personal letter should be written to the parents congratulating them upon the arrival of a new member in the family, and pointing out the value and interest which a weekly record of baby's progress would have in later years.

If you are inclined to economy, the album may be omitted; this is, however, not the wisest course. The book will be preserved; it will come to the parents at a time when courtesies of the kind are not forgotten, and it will serve as a continual reminder of you and of your business. Moreover, it is the best of advertising in that the fact that it *is* advertising is not too apparent, and it serves a psychological purpose in putting the family under obligations to you at the start. If your letter hints that your prices for such work, on a basis of weekly sittings, will prove surprisingly low and that you will call at the home for the purpose of making the exposures, it will almost certainly insure at least an inquiry; if it does not do so after a reasonable lapse of time, follow up with a personal call—preferably at such a time time as the father will be at home.

You may have some prejudice against making your portraits in the parents' home and prefer to wait until such a time as the child is old enough to be brought to your studio; if so, endeavor to overcome them. In the first place, the man who starts in by taking baby's first picture is most apt to hold the business; secondly, you will find the child much more tractable amid familiar surroundings. The time spent in going to and from the home may be figured in your charges, if you wish, but the writer considers it more than paid for by the fact that your studio is not blocked for an hour or so while you are inducing Master Baby to behave and by the fact that fewer negatives will prove "wast-

ers"; also, there's always the chance of picking up other business, as mentioned in the article on "At Home Photography." At any rate, it will not be long before the child is old enough to be brought to your studio; by this time it will know you and you will have some knowledge of it's disposition and expressions—factors which will have much to do with the success of your later exposures.

No special outfit is required for this sort of work, although if you can afford it a camera of the "Graflex" type is a good investment; it is not only available for many other occasions, but it is the camera par excellence for child portraiture, inasmuch as slow snapshots may be made indoors—while, by following the rapid changes of expression as they appear upon the mirror, the exposure may be made at precisely the right instant. Nevertheless, if you are experienced in the use of a small hand camera or kodak, and couple your handling of it with a little brains, you will have but little difficulty.

The small camera is preferable because it is unobstrusive and not likely to frighten your subject; moreover, it pays to make plenty of negatives and the expense of these in the smaller sizes is much less—you can handle the small camera more quickly and you will find the depth of field of the short-focus lens a decided advantage. A light tripod is, of course, a necessity except with cameras of the Graflex type, and a toy or so in your pocket may provide a novelty and interest not secured by the playthings with which the child is familiar; backgrounds and accessories are furnished by the home itself.

The writer is aware that a prejudice against child photography exists in many studios; perhaps it would be better to say that many photographers, not being fond of children, dislike to photograph them—its too much trouble, they say, or there's not enough in it. It is all in the point of view, of course, or rather in the method of handling; rightly done it may be made a source of both pleasure and profit, even if we leave out of consideration the other business which is morally certain to come to us as a result thereof.

Bear in mind that the child is, in the eyes of its parents, the most perfect thing that ever came into the world and don't be disappointed if your most painstaking efforts fail to do the subject justice, in their eyes. For their very obsession in regard to the child will often extend to the photograph, and prints from every negative that you make are almost certain to find a market with them, simply because they have "Baby" for a subject. It will be good for you if you can appreciate the parents' point of view; even if your subject is knock-kneed, freckled and cross-eyed, try to act as if you thought it a cherub taken direct from a painting of Michael Angelo's—and use as much care in picturing it. Thus are friends and good negatives both made.

As for trouble, remember that practically no negatives are wasted; that retouching is seldom required and that orders are almost a certainty. The actual making of the baby book may not show you a large profit, although you can do better than make expenses if you arrange with the parents beforehand that a certain price will be charged for each sitting, even if but one print is purchased; this may be done diplomatically and without giving offense. Then, every baby has relatives—doting grand-parents, aunts and uncles—who must be remembered, and practically every exposure made before a certain amount of interest in the baby has been lost will result in an order for a dozen or so postcards, at least, if the price is right.

Orders for enlargements and similar work may often be obtained if you make the suggestion delicately, referring to a certain pose as being "So cute that you'd like to make an enlargement of it!" This is particularly true at the holiday season, when a suggestion to the parents that baby might like to remember her friends and relatives who have been good to her will produce results. Suggest a "Baby Calendar," in which the page for each month is decorated with an appropriate print of the youngster, or a

baby book similar to the one which the parents themselves are keeping—in either case the prints are taken from the negatives which you have already made, so that trouble and expense are minimized and your studio is not clogged during the rush season.

The prices which you may advantageously charge for such work must remain a matter for your own judgment; in calculating them, however, remember that the call will in the main be for postal cards and small work. If you are content with a small margin of profit, charging, say, one dollar or one dollar and fifty cents per dozen for cards, and have an agreement to the effect that no sitting will be given for less than one dollar, you will still make money because of the increased number of prints that will be purchased. It is continued business that you are after, and this is the way to get it; an occasional enlargement from a negative already made, as well as baby books and calendars whose preparation requires nothing but an evening's printing on one of the economical developing papers, will materially swell the returns.

While but a few methods for capitalizing the new arrival have been outlined, your own ingenuity will no doubt conjure up many others; at any rate, you will find Master Baby well worth cultivating—he is not only a potential "grown-up" who will be in continual need of your services, but he may prove the connecting link between your studio and those who love him, be they parents, relatives or friends.

INITIATIVE

WHAT did you ever do that was new, or that you were not told to do?

Analyze yourself.

Are you an initiator or an "initiatee"?

Are you one of the kind who, upon finishing a task, waits for another to tell you what next to do, or do you initiate?

The writer recently read an article in which the statement was made: "That he who needs supervision must necessarily pay the salary of the supervisor."

In other words, the man who requires supervision earns money with his hands with which to pay another for doing the thinking that he himself might do.

The same man could, by using a little initiative, do at least a part of his own thinking, thereby earning the double compensation of supervised and supervisor.

It is a fact that no matter what your occupation may be, your compensation is governed in a greater or less degree by the amount of supervision and observation that it requires to keep you at your work.

It matters not, whether you are the errand boy or the head of the house, the result is the same.

If you are errand boy and lack initiative, it will be a hard matter to convince the boss that you are worth more money than he is paying you, and if you are boss, a lack of initiative will not only work for your own detriment in the line of profits, but will be a direct obstacle in the way of every one of your employees, even to the errand boy.

The man who now earns the minimum wage by doing just what he is told to do (or perhaps a little less), would soon be earning a better salary if he would occasionally do something on his own initiative; likewise the man working beside him, who is now earning a little more than the minimum, would just as quickly sink to the other's level without it.

It is true that we can't all of us become supervisors, but isn't it also true that you are right where you are by reason of your *own initiative* or the lack of it?

There may be certain exceptions to this statement, but, on the whole, I believe it to be pretty near the truth; at any rate it has been said that "exceptions prove a rule."—*Tabasco* in *The Ambassador*.

THE KIND OF ADVERTISING THAT BRINGS BUSINESS

"THE proof of the pudding is in the eating." A better proverb was never penned; and, mark you, no other so appropriate to photography.

An appetizing odor may advertise the pudding as "delicious"; but unless it melts in your mouth you will never pass your plate for a second slice.

Likewise a handsome booklet may breathe of the beauties of your portrait work; may tempt the pictorial appetite of the reader to the sitting point; but unless the finished pictures prove what your alluring arguments and handsome half-tone engravings said, you will never secure that customer for another order. He will tell his friends, and they will tell their friends, that you are clever at getting up a booklet, but your portraits are just common stuff.

Don't doubt but what they recognized lots of likeness in the work; but that subtle something—the art part—the qualities that challenge one to look again and again; the qualities that attract the stranger are, alas, lacking, simply because you have neglected to school yourself or be schooled in the sound principles of pictorial photography and composition.

Not only wealthy city people care for the highest grade of pictorial photography, but people of ordinary taste and means crave more than mere likeness in their portraits, and are willing to pay extra prices for extra qualities.

There is no use in arguing against the necessity of a sound knowledge of pictorial photography and composition. The public is becoming educated to appreciation of pictorial qualities through the widespread reproductions of fine pictures of old and modern masters. You will find them in school-rooms in the form of the penny pictures; and in a year's time the scholars turn up their juvenile noses at common prints in newspapers to the "real pictures" they have in school.

Then look at the array of art studies, especially select portraitures, to be found in almost every magazine; and in millions of homes these true pictures (true, because the composition is good and they possess pictorial qualities) are moulding and educating the taste of the great middle class, the thinking and doing class, the backbone-of-the-country class.

Again, in thousands of shops, stores, and factories hang beautiful calendars embellished with charming portraiture, landscape, and genre; they, too, are moulding and educating the tastes of millions of working people.

What does it all mean?

Just this; that when they come to you for a portrait *they are* not satisfied with pretty cards and fetching backgrounds. To be sure, there are only a few who can describe the qualities in a picture which they crave and are willing to pay for; but *they know* the genuine, pictorial portrait from the ordinary pretty likeness, however attractive the latter may appear with its imported cards and tonal effects. I say, they know the difference in pictures as well as they can differentiate *good* music from tinkling tunes, jigs, two-steps, and trash.

If you still doubt the pictorial trend of the times; doubt the demand for good composition; doubt the profits that come to the makers of good compositions, then open your eyes to the fine pictorial effects and compositions that appear in the applied as well as in the *fine arts,* such as pottery, jewelry, architecture, fabrics, wall-paper, books, and music.

You would not sit in your easy chair, after working all day, and enjoy the exquisite pattern of your wall-paper if the company that made it had not paid from $100 to $150 per week to its head de-

signer. Neither would that company prosper if its patterns were not up to the art mark and people clamored for their exclusive styles, good in composition and design. People are willing and *do* pay more for such wall-papers than for other designs equally as expensive to producer, but lacking the exclusive touch, good composition, and design. Set this down: that makers of fine wall-paper do not make their money by simply using costly machinery, choice colors, etc. The brains of their designer, who can produce good compositions, are responsible for "great sales."

Now, do you think I am harsh in urging you to lay aside your booklet ideas for a while and take up the serious study of Composition and Pictorial Photography. The better knowledge a photographer has of pictorial photography and composition the better use he can make of all these excellent materials, and the more he will need of them.

Keep your finger on the pictorial pulse of the times if you wish to succeed. There is a whisper running along the line; pretty soon it will become a louder hum; then still louder—and throughout the photographic ranks will be heard in no uncertain voice: "Give us art"; "Teach us how to put pictorial quality into our pictures"; "Show us how to make a good composition!"

In anticipation of many inquiries, "Why should a studio keep on with newspaper ads and not booklets?" I will say, the arguments used in newspaper ads are bright, chatty, newsy talks from day to day or week to week, which are good for any studio to use. It shows they are alive and pushing for business; shows they have interest enough in their own town and people to keep them posted in their line. But with booklets every reader scans the handsomely printed pages, and gets the impression that the grade of work you are describing in such courteous and convincing sentences is something quite superior and distinguished. The illustrations suggest that the reader may look for portraiture full of pictorial qualities; portraiture whose composition is excellent. Then when the believing public visits your studio and discovers that your pictures are the same nice, prettily-mounted kind that are made all over the country, they will smile and say they "will think it over" when you venture to suggest a sitting. Perhaps you are still waiting for the appointment; but they are still "thinking it over" and have decided, and advised their friends that "you have splendid skill in arranging a beautiful booklet, but in your portraiture you lack originality and individuality."

"Where do they have their portraits made?" you wonder.

I'll tell you where. They go to some amateur who has had an art training (and they are springing up in many a town all over the country), or they are going to the next town, where they know they can get from an art educated professional photographer just such portraits as they desire, and will willingly pay him four times the price of the pretty-tonal-effect kind.

It were better not to have issued such a booklet until you have trained yourself in pictorial photography and composition, for it will act as a boomerang.

I do not dispute but that there are some studios whose portraiture warrants the use of booklets. They are few, however; and the great majority of studios need not lose heart or courage—just keep right on with your newspaper ads and devote a reasonable amount of time to the pleasurable and profitable study of practical photography and composition. Then use your booklets, nicely illustrated, and lay a sound foundation for a fine patronage in the future.

THE COMMERCIAL PHOTOGRAPHER

BY R. W. JOHNSON

I AM a commercial photographer because of natural desire, and years of experience teach me that it is a task worthy of the effort I have put into it and none the less self-respecting in proportion to my achievement. Our duty in 1913 is to all together boost all photographers.

The slur—that he is a commercial photographer—a "kidnapper—is unjust, and I am glad to say it is fast disappearing. To-day the public is recognizing that commercial photography is growing higher and better. In this field, the man who needs open air for his health's sake finds a livelihood if not great prosperity. It is also open to less temptation to vulgarity. It is a field worthy of the most intelligent of business men, with art, ability and self-respect. Let's get together and make it recognized by the public as a profession of the highest rank. The whole field of photography will be bettered. Portraiture has taken high rank and also like commercial photography has a horribly degenerate side to itself in name as; for many a horrible looking place is marked "Studio," "Postal Studio," "Photo Gallery." It is up to us to make a good name and standardize some of our methods. Let it not be said that the Commercial Photographer is one whit less in personal worth or standard of work than the average portrait man. Sharp practices by the camera man must not be countenanced.

Why should there be any feeling of unreliability on the part of the public? We should establish customs and standards that are operative the country over. Include in every turn the belief that your success and standing depends upon how high you are as a man. Granted that you are attending to that. Let us think of points necessary for success.

Methods of charging, collecting and pricing. I issue my bill to read "for making first original photograph," never "for making negative," or "for photographing such and such subject." It leaves an opening for claim on the negative. I am glad to see that a recent decision places the negative where it belongs —in your files and no other place. Keep your negatives carefully indexed and in numerical order. Our employees should recognize a moral obligation, and you who assist an employee from another establishment to break over his moral obligation to his employer by getting him to assist you to do some work in after hours in competiton with your assistant's employer are guilty of rank, undignified, and dishonest practice. It is also rank injustice for you to copy or adopt another's photograph to your use to make cheap reproductions from important photographs. We must make use of the Copyright League, of which Mr. Rau is president. It is awful the neglect you and I make of our opportunities, such as the Copyright League. I caution again, you do not increase the public's favor toward the camera man by sharp practices, neither do you improve your own standing by an abnormal charge even to an abnormally rich customer. They are wise enough to know the reason. It is not possible to bind our craft to one price, but many do not know what to charge until too late to repair an established error.

First and last, keep your negatives.—*The Indiana Photographer.*

HOW OBSERVATION PAYS

BY F. ROUNDS

Is it an advantage to be at the top of the tree? Or what is the top of the tree? One man born on a mortgaged farm lifts the mortgage; and by the time he is fifty, and in the prime of his usefulness, he has a house in the village and owns three farms with managers living in each farm-house. Another man born in equally adverse circumstances, but in a large city, comes to the top, and is a millionaire president at forty. One man is not more able than the other—it has been a question of different opportunity. Forcing city life has rushed the natural aptitude of the one; pastoral pace has attached the other to a quieter ambition. A man may be at the top of a small tree; and it is quite possible that he is just as useful in his place, and gets as much comfort out of life as the man at the top of a large tree.

There is one thing which, as I have noticed, is common to every top-of-tree man, and that is intelligent observation. The president-manager knows to a fine point the exact cost of maintenance of each department; he knows to a fraction what each section is doing and where to watch for a leakage. His eye is on everything that directly or indirectly affects business. The farmer has discarded old way-back methods. He learns from a trustworthy source the value of the different brands of phosphate. He makes use of the State experiment station, and he reads the agricultural bulletins. *His* hens never yield poor eggs, poor either in number or quality. He understands the "why" of everything; and to attain a satisfactory result he works for it.

The moral is trite. But I am not working toward a moral or a sermon on business methods. Merely the one question of observation. The photographer needs a dual education, that of technique and that of observation. The former is fairly easy to learn; the latter is perhaps equally easy, but it is not learned. A man cannot start in to be a photographer until he has grasped at least some of the technique of the work, but he will make shift to get along without any modicum of the observing faculty. All photographers of any ambition aspire to attend one of the conventions. They love to look at the pictures there; but there is enough evidence to show that only the technical part appeals to the greater number of them. The sameness which pervades the work of more than 90 per cent. of the photographers results from a lack of observation.

How are they to observe? how are they to get new ideas? Bunyan tells us that there are two principal entrances to the citadel of man—eye-gate and ear-gate.

And by the eye the photographer must learn—from life, from the printed page, from the illustrated page. At considerable expense a man hears a speech at the convention. He goes back home with the knowledge that he has picked up one or two hints worth knowing. The same speech comes to him at the end of the month. Perchance he glances through it and sees nothing worth noting—there is never anything worth noting or worth remembering unless one reads *carefully*. A man will spend a long time before a rival showcase, and he will turn the pages of a pictorial magazine in a third of the time. And yet those pictorial pages reproduce the *essential* features of pictures—those from which the photographer may learn. Reading or the look-

ing at pictures is not a mere cursory amusement; it is, or should be, an incentive to thought. Thought and information are natural requirements of the photographer. He feels the need himself, and flocks to the convention to satisfy it. Whether he really finds it there, unless he has previously trained himself to detect it, seems open to doubt. Certain it is that one man does not pick up one-tenth of what another man does.

The man who wants to get on should have a live appreciation of what others are doing. A man cannot be too omnivorous a reader if only he reads thoughtfully and with understanding. Every idea that widens the brain widens it all around; it makes easier the entry of the next idea. It is wonderful with how little effort a book can be glanced over; but to be read (if indeed it be worth the reading) takes time. Every picture that is studied can teach something, if only something to be avoided. It is so easy to see the faults in outside work, and so genuinely difficult to detect them in our own, which is with us so constantly that we lose the faculty of criticising it.

Inspiration is to a great extent the unconscious utilizing of ideas which have been gathered from time to time. Picking up ideas is profitable employment; if we can identify two which we have gleaned the odds are that we are really the richer by three or four. Ideas are everywhere around us, and nowhere are they in a condition easier to assimilate than in the printed page. The man who neglects his reading, or does it perfunctorily, is forever missing his opportunities.

A CRITERION OF EXAMINATION

BY J. A. LORENZ

In Byron's famous satire wherein he struck back at the critics, he said he would make his own review—he served a powerful notice on them that he would not allow them to say that he was not a poet, but he did not expect to cast contempt on their judgment without showing their lack of competence, and he furnished the proof that he was a great poet—a great satirist, in the way he handled his would be judges.

The power that Byron had of being his own critic is the power that every great artist has of judging his own work, and no one can be an artist without having it. The reason that Corot and Millet painted as they did was because they had a plan on which they worked—and they painted up to their own criticism. Now, the fact that they painted in a different manner from other artists, by no means showed that they were ignorant of, or in opposition to, what the artists had been doing through centuries. They had a criterion of examination, and by it they worked out their problems in their own way. The diversity of methods of artists has been misunderstood by many in photography, and has furnished them with the ready expression when their own ways have been called in question "there is a difference in taste."

To point out some of the ways by which one may examine his own work, and judge whether or not it is founded in good taste, otherwise correctness, is what I hope to do in this article, for it is not true, as many think, that in art it is a go as you please race in which there are no rules.

I will take my readers to nature none the less, if I invite them to make a visit with me to an art gallery, and see nature first through the many mirrors held up to it, portraits in painting and excellent examples of engraving. Now let me describe one of your own photographs—a head, and see how it measures up to an engraving that is admitted to be a beautiful work. Here is your head two and one-half inches long, we will say, sufficiently large to bring out the features well. Your subject is a lady in a soft white dress. It is a regular style of lighting picture consequently the most of the face is lighted. Where the light strikes on the face from the forehead to the chain, and on the neck, it is white—there is no difference between the face and the dress—both are white. This is certainly a truthful description of the usual photograph, called "good clean work." Compare your photograph by way of measuring it with this old mezzotint engraving called "Sweet Anne Page" in which an artist has tried to embody the lovely girl of Shakespeare's creation. Sweet Anne, like your photograph, is dressed in white, but nowhere is the face as white as the dress, and though she is young and has no lines in her face it is really what your retoucher would call "spotty"—it is full of undulations—even the sweet white forehead has depressions and elevations in it here and there. Very different is this engraving from your photograph. Your lady's nose has a strong white bridge—all of the bridge of the nose is white, while Sweet Anne's nose has a mere speck of light on it, not quite at the bottom of it, and higher up a little line of light faintly plays—hardly noticeable. Your lady's lips are parted, naturally and sweetly, and the teeth are showing, but the upper lip is black and the under one white. Sweet Anne is as happy as your lady, and she also is smiling and her teeth are showing, but how different are the mouths of the two. Her upper lip is very little if any darker than the under one; the mouth is only a little darker than the face because the lips have more color—and notice the under lip. It is divided in the middle by a line on either side of which it slightly rises, giving just such a mouth as the poet describes: "Her lips pulped with bloom." The human mouth—how beautiful it is in youth and innocence. The camera may sometimes, even when managed by a blunderer, show the beauty of the human eyes, but the beauty of the mouth is only discerned and analyzed by intelligence, and to adequately represent it by art with any medium that may be used is a matter of thinking—not guesswork.

Let us leave Sweet Anne now as represented by the engraving of her, and look around at the painted portraits on the walls. "Lifeless but lifelike, and ever the same." Do you not see that all the artists represent the mouth just the same way? That is, they represent it as color, and not light and shade as the nose is represented.

Don't be afraid to put your work to this merciless examination, if it does go to pieces under it. You will then know of a wrong, and if you wish to be right try to correct it, which you will never do as long as you think you are right. Take your photograph in your hand and make the tour of the room with me, and see if you find one artist who has painted a nose as your photograph is. See how our artists, Gilbert Stuart of Washington's time, and Elliott and Hunt, artists remembered by this generation, painted the most noticeable feature of the human face. To conclude now your examination compare the general effect of your photograph, the flesh—the face where the flesh ought to be rather, with the painted portraits. See whether you find any of that blank space in them that your own work shows in such plentiful quantities. See if you do not find in the great examples of work around you that the human face has no blank spaces, but is everywhere light or dark, and is everywhere a depression or an elevation. If you find that artists paint in this way you might reasonably be expected to ask yourself why they should do so if it is incorrect—if instead of leading to them it leads away from truth and beauty.

Anyone who attends the Photographic Conventions, I conclude, will feel that Mr. Garo by common consent is ranked

as the first of them all. It has been my good fortune to have many talks with Mr. Garo on art and so I know the clear mind he has on the subject. Mr. Garo does not confine himself to the study of portraiture but gives his spare time often to landscape painting. Much as I appreciate Mr. Garo's abilities I appreciate more his feeling for art itself. I understand his idea of budding up photography to consist in making photographers know more from an art standpoint instead of forming plans by which some of the craft, those who have the most money should be able to get it all.

All honor to the man who in photography entertains such ideas; he is a rarity, and besides I love not solitude.

"Plain truth dear Murray needs no flowers of speech."

RULES FOR SUCCESS

BY R. MORRIS WILLIAMS

Can't say about the other fellow striving for artistic and financial success, but as for myself, I find that TRYING to live up to the following set of sixteen rules is slowly but surely bringing me a measure of the success which I have been working for. I give them here for what they are worth.

1. I put the utmost into my work that "within me lies."

(Have yet to make the first picture that satisfied me.)

2. Advertise to the extent of 15 per cent. of my gross business.

(Daily papers and booklets exclusively.)

3. Undeviating prices commensurate with quality.

(Do not be afraid of getting them too high. You will still have enough fear left to keep them within reason.)

4. Change my showcase regularly once each week.

(Case holds two pictures, one on each side.)

5. Employ receptionist who knows how to sell my product.

(Get the best to be had at any price.)

6. Try to be invariably courteous, cheerful and optimistic.

(All three of equal importance.)

7. Never, never knock competitors.

(Cannot over estimate the importance of this.)

8. Demand and get utmost cleanliness throughout studio.

(One of the hardest things of all.)

9. Take a good long vacation each year and attend all conventions possible.

(This will prove money in your pocket, not to mention health.)

10. Always willing to learn from salesmen and demonstrators.

(They all have something good for us and are invariably willing to impart it.)

11. Read the trade journals.

(Can't keep up-to-date without them.)

12. Keep equipment up-to-date.

(Advertising pages of trade journals keep us posted.)

13. Use artistic and exclusive mounts.

(Something the patron cannot get elsewhere.)

14. Send out proofs in a neat and artistic manner.

(Mount proof in portfolio, one to the page, wide margins.)

15. Send out finished work in neat and finished manner.

(Neat, white tissue paper package with artistic gray seal is good.)

16. Use refined stationery.

(Appropriate to the class you are trying to reach.)

There are a thousand and one more rules quite important.

(But the above are the most important as I find.)

You knew all this as well as myself; the thing is:

"Do you put it into practice."—*The Indiana Photographer.*

PHOTOGRAPHIC ART IN GERMANY

BY BRUNO BRAUNSBURGER

It is based on the principle of photography, in that it occasionally produces even accidentally quite surprisingly artistic results. Every amateur has produced works of art or at least artistic pictures with the help of such an accident. But is he then an artist? Is art anything connected with accidental matters? We think not. The term "artist" cannot be separated from the conception of a personality who has at disposal certain abilities, feelings, etc., and art is made through a determined creative shaping. Art requires activity, a distinguishing eye, a taste well selecting under various possibilities. Thus the man who does not know beforehand whether the object upon which he sets his camera will, if photographed, produce an artistic effect can never be an "artist."

We are, however, prone to call a photograph of some picture-like character artistic, perhaps with insufficient reason. We can obtain the picture-like effect of a photograph very easily by imitating a master work of painting, we can call a photo only then a work of art when besides the picture-like character the impression is made that the originator has utilized with sense and unaided efforts the advantages and possibilities of the photograph technics in a tasteful and perfect way. As with a painter, the value of his works depends on the fact whether a fine artistic feeling is expressed by equal means. We should think that the most photographic artists were to be found among the professionals. This, however, is not the case, for the reason that photography has been regarded until recently as a business, not as an art. The photographic artist is, although, thanks to the competition from the amateurs, photography has reached a high standard, somewhat of a "rare avis." The suppositions for an artistic training of the professional do not exist yet in a sufficient measure. The more attention therefore we should pay to the—exceptions.

In every large city in the German Empire now you find some of this kind. They are excellent in portraiture which field of art has been most neglected. They understand the way in which position, movement, expression of a person, his individual manners, character, his mental and physical advantages can be best reproduced. In addition their talent enables them to judge under what lighting these special features are presented true and convincingly. They are masters of unconventional portraiture and show such great versatility that it is impossible to take any example of their work and say, these are typical. Many pictures illustrate a speciality in which they are experts—the using of one figure or face as a background for another. This is a minor trick or habit or convention, namely the method of partial eclipse which frequently occurs in their works, in groups of two or three also in arrangements of large parties. Any one who looks through the albums and folios of the modern portraitists seeing a large quantity of promising and unpromising subjects, most of them admirably treated, must realize that the merit lies entirely in the man and his methods, not in the sitters. It is not easy in every case to produce pictures which comply with the

requirements for resemblance and artistic effect. It is pleasing to see how rich of shades a face, neck, arm, or hand is, how wonderfully these model a shape, how pretty in tone the flesh looks against the background with what delicacy singularities are suppressed.

Speaking of general photograph matters, there is a constant increase of the possibilities of photography in serving science and arts through its objectiveness. This is true with reproductive photography as well as with the value as a means for illustrating. For scientific and artistic work the three colored print having reached a high state of perfection occupies now an important place. As it adapts itself more and more in its productions to existing requirements the facsimile reproductions of even rather difficult originals are no longer impossible. Equally excellent results can be reported from three color heliograph printing which besides can be employed in the most difficult work by reason of the improvement and perfection of its technic as it has been developed on a purely mechanical basis. Some branches of photo-mechanical reproduction have gone through a somewhat stormy epoch of development, the picture postcard chiefly being responsible for it. This useful little thing originated in Germany about thirty years ago and although other countries have imitated it the German postcard industry surpasses both in quality and quantity any other. Shiploads of them go over to Great Britain, the United States and Canada and if a tourist buys a card in London, at the seaside resorts or Niagara Falls he will nearly always notice the words imprinted in small type "Printed in Germany" or "Saxony" or "Bavaria." It cannot, however, be denied that the quite enormous quantities of pictorial cards produced had a harmful effect upon the quality of photomechanical reproduction. We may especially mention the process of heliographic printing. The prices have gone down in a simply astonishing manner.

As regards mechanical reproductive processes in which a printing press is used they found a powerful competitor in the photographic rotary printing machine. We know that bromide silver paper plays here an important part being a chemical as well as mechanical process, in the early stages much limited in its sphere of activity. About a decade ago there was one such establishment making these rotary photographs in great quantities. Now the latter has increased its works considerably and many other factories have been established in the meantime. The bromide silver postcards mostly illustrating art and so-called genre subjects are exported to any place on the globe, Germany nearly dominating the world's market in this line.

Not much is to be said about photographic clubs in Germany as most of them have no meetings during the summer months. One of the largest, the Freie Photographische Vereinigung Berlin, had recently a special postcard exhibition, the best works of which were selected for the Hamburg show. The same club runs at present a competition for pictures from the province of Brandenburg in which Berlin is situated. Photos are wanted showing characteristic villages, typical farms, cemeteries, pretty gardens, parks, castles, woods and residences in small towns for which beauties Germany is famous for. There is a remarkable movement for preserving old historic spots and picturesque scenes in the German Empire and if for sanitary reasons or those of traffic and safety this is not always possible there are voices who favor the rebuilding of such a house, gate, etc., at some other suitable place instead of removing it entirely from the globe. For instance, there stood for centuries in Berlin's most crowded square a colonnade consisting of two rows of huge columns forming two arcades. They are very similar to those which adorned Regent Street in London many years ago. They obstructed traffic quite considerably and numerous articles were published in the daily press demanding their removal. The matter was put off from year to year until at last they were pulled down this summer. But the art loving Berliners need not feel unhappy for these fine pieces of old architecture

are now erected again on a large square in the West of the capital with exactly the same material in the old style begrimed from dust and smoke. Everyone rejoices (a matter for instance impossible in America) for the obstruction is removed from a crowded thoroughfare and yet nobody's feeling for historic remains is hurt. In order to correctly rebuild such structures it has been proved that photography is indispensable as the various pictures originally taken serve as a guide for the masons at the new spot. Again, in many cases a re-erection is not possible at all and the pulling down of houses or even whole blocks is an utter necessity. In such cases always numerous photographs are taken everywhere in the German Empire and the prints carefully preserved in the archives of the city administration, in museums, libraries or they are published in architectural,—art—and popular magazines. There is a special class of experts doing this, mostly called industrial photographers, but even a governmental institute exists for this special purpose. What other cultured nations have not yet started in this twentieth century Germany can boast to have it for 25 years. This institute works with the very best apparatus and employs skilled operators so that the results obtained are the very best imaginable. Although mere photographs they are as accurate as drawings carefully made with scale and ruler, etc. Thus, through our wonderful art of photography such relics remain eternal.

PHOTOGRAPHING DOGS

BY GEORGE OLIVER

In certain sporting or training districts the photographing of animals should prove as important an adjunct to the business as does the photographing of students in some college towns. For a long time I have made quite a specialty of dogs, being rather fortunately situated in a district where there are not only many bird dogs, but where, in addition, many lady summer visitors bring their pet dogs. The work divides itself into three classes: first, the photographing of sitters, accompanied by their pet dogs; second, the photographing of the dogs alone in the studio or in the garden attached to it; and last, the work in the open field.

In studio work of the first class I find ladies the easiest to take, but the hardest to please. A lady, more often than not, has a small dog which she is fond of holding on her knee, or even in her arms. She is usually taken sitting, and the dog, being quite at home in its position, will, before many minutes are past, remain quiet sufficiently long for an exposure. A noiseless shutter works inside the camera, and I use all the light there is, with a big aperture and rapid plates, so that the exposure is reduced to a fraction of a second. A pet dog will sit up more or less alertly on a word from its mistress or from the photographer, and photographs in which both face the camera, the one smiling and the other alert, seem to be the most popular. With difficult dogs much patience is necessary, but I can always get them, sooner or later, while their mistresses are talking to them. These are the pictures which more often please the friends of the sitter

than the sitter herself, and they lead to a number of resittings. But I, a few years ago, adopted the rule of giving resittings without a special charge, and, taking one customer with another, I think the work pays well on this plan. With men I usually let them stand, with the dog at one side, and this is not easy work, for the dog is nearer the edge than the centre of the plate, and it often means more than a little work before the dog can be got in sharp focus and remain there long enough for an exposure.

Right here let me say that it is no use trying to photograph dogs unless you were born a friend of them. If you think that dogs are just ugly brutes, you will have about as much success as a surly misanthrope would have if he tried to photograph children—dogs know. With a love for dogs you have the right qualification, but a knowledge of dogs is also necessary, so that "points," etc., may be intelligently and even enthusiastically talked about. The reason I succeed with difficult dogs is, I think, because it never occurs to me that I am "exercising patience," or living up to any other school-room maxim; I am simply interested in the effort.

For photographing dogs without their owners I have in the studio a tall table, three feet six inches high, the top of which has been thickly coated with warm glue and then sprinkled with coarse sand. A board, similarly coated, hangs in front to hide the legs of the table. A plain screen, either lighter or darker as best suits the dog is hung behind. The dog stands on this table. If the dog wears a collar or is used to the leash I let his master hold him, but remove the chain or strap and use instead a piece of very flexible, dull, copper wire. If this shows at all it is only slightly, and can easily be spotted out. The owner may stand behind the background, looking over it, and, of course, well above the top of the picture. More often the holding should be done by some third person, the owner meantime talking to the dog. When the dog is in position the owner, telling it to stand still, walks slowly out of the range of the camera. If the dog does not watch him sufficiently alertly, the necessary expression of interest will be got by breaking a bit of bread or a biscuit. I focus as soon as the dog is in position, draw the slide, and hold the bulb in my hand ready to press. I always make the exposure the moment the dog looks as I want him. Some plates show movement, but I do not lose as many as when I first commenced and used to hesitate, wondering if the dog were going to move. And sacrifice anything you like for speed, as long as exposure isn't sacrificed. There *must* be a sufficient exposure.

The work which I do in the garden is the same, except that I have a grass-covered bank built about seven feet high, with a broad step half-way. The dog stands on this, and the bank forms a sort of continuous background.

The last method is taking dogs out with their masters. I first tried this with a quail dog, and so pleased its owner that he sent me several other customers. I use a reflex camera, and where I have the right sort of owner to help me can get some good pictures of dogs at work. At first I used a 5 x 7 Kodak, and do not think I have beaten it much, and certainly have not beaten the films which I used in it.

About the money end of the business: During the summer months I must have averaged three or four sitters a week, either dogs or dogs with their owners. The takings have averaged about $7 per customer, and I calculate three-quarters of it would not have come to me had it not been for the dogs—their owners would not have come on their own account. I do not think that I can reckon much cash asset, after paying expenses, out of "field work." I like the work and take it on, as I am so fixed that I need not be in the studio every day. If it meant losing money at home it would not pay me at all to go out-of-doors.

I keep rather more than half my window full of dog pictures. One or two only would do no good, but with a full show people see that it is a special line with me. I have never been able to trace a cent that I have lost through anyone objecting to a studio in which dogs are frequent visitors.

MRS. SHAW

BY SHERRIL SCHELL

COUQUETERIE

BY SHERRIL SCHELL

STUDY

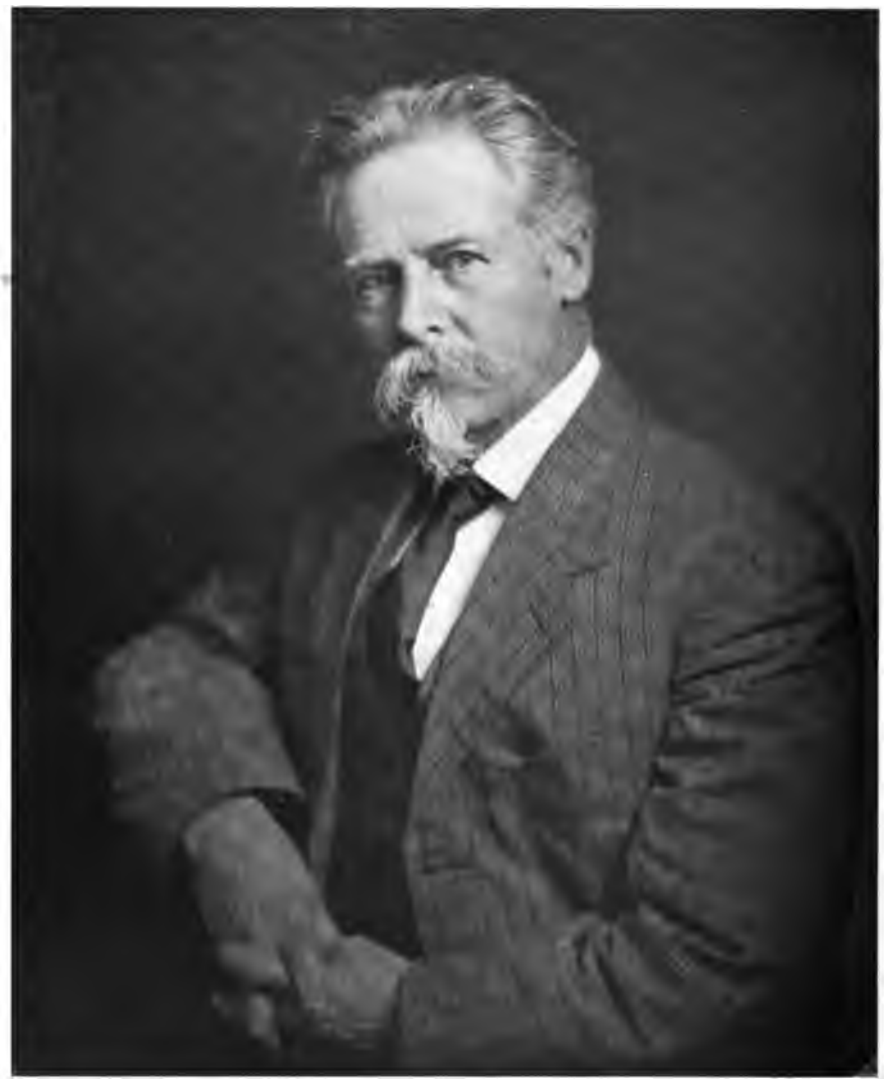
BY SHERRIL SCHELL

BARONESS BAEHRENS

BY SHERRIL SCHELL

REVERIE

BY SHERRIL SCHELL



MR. JOHN A. LORENZ

BY J. H. GARO, BOSTON, MASS.

A GOOD PORTRAIT

BY EDINGTON

SELECTED BY JUDGES FROM CONVENTION EXHIBIT

BY GERHARD SISTERS, ST. LOUIS

MR. J. H. GARO

BY J. A. LORENZ, BOSTON, MASS.

BY JOHN H. TARBELL

SEE "PHOTOGRAPHING DOGS"

TO BE THOUGHT OVER

EXPRESSION IN PORTRAITURE.—The great fault of photographic portraiture is the want of meaning and expression in the faces and poses of the subjects; the want of real character, which reduces what ought to be a "speaking likeness," a representation giving the individuality of the person into the mere semblance of an expressionless waxwork. The features are there, the anatomical outlines are perfectly clear; but the life and soul are gone. But to put life and soul into a portrait, whether photographic or otherwise, the artist must be a student of human nature and have the power of drawing out and seizing upon the personality of each client, which is usually veiled by the tone of polite and calm indifference, which in society it is thought a "good form" to adopt. One must blow away the ashes and expose the hidden fires. Talk to a man of his hobby and animation will kindle in his face. Catch the glow of delight on the face of a collector as he eagerly handles some rare coin or book. Set a chess-player before a board with a difficult problem to make out and you will get a good expression of earnest thought. Watch a musician when he is listening to the performance of a fine orchestral piece, and you will see a picture of rapt attention. Place a painter before another man's picture if you want a critical expression, and gaze unobserved on a mother looking at her sleeping infant if you would have one of yearning tenderness. All such are familiar, yet useful, figure studies, and without acquiring a habit of looking for the best and most characteristic expressions of various persons no success can be expected in the art of portraiture as it should be, and we must needs content ourselves with the simpering, pleasant, and "trying to look pleasant" faces, and eminently artificial poses, which now fill our shopwindows and our albums.

SELECTION IN LANDSCAPE WORK.—An important element of success, in the pursuit of landscape photography is the attainment of the power of selection. Those persons who are naturally gifted with that kind of taste which enables them at once to perceive those combinations and effects in nature which will make the most agreeable or effective pictures, are indeed fortunate; and although they may receive much gratification and instruction from looking at the works of eminent artists, and seeing under what effects they have treated the various scenes represented by them, such study is not so much a matter of necessity with them as with those who have been less favorably endowed.

Sir Joshua Reynolds says: "Nothing is denied to well-directed labor; nothing is to be obtained without it;" so that none of us need despair of attaining excellence if we do but give our earnest attention to our pursuit. Hundreds of views are constantly being made that are of no account whatever, except inasmuch that they may be portraits of places possessing interesting associations to those who are taking them; as we see in show cases innumerable faces admirably done, and each one highly interesting to self and friends, but passed over with the utmost indifference by everybody else. When the object becomes the making of a picture, the producing of a work, which from its possessing certain intrinsic qualities giving it a wider interest, and ranking it as a work of art, more or less, it is necessary that we discriminate between the beautiful and the commonplace in nature. It will not then do to set our camera up in the first country road that

we come to, and focus straight along it, being satisfied with its parallel sides, lined with stiff fencing and rows of straight-stemmed cedar trees. We must go further, and see if we cannot find a spot where nature will spread before us some of her unfettered charms—trees remarkable either for the lightness and grace which characterize some varieties, the fullness which marks others in the vigor of maturity, or for the picturesque ruggedness of decay; some sheet of water, even though it be not river or lake, where we will get mirrored reflections, sparking lights, and flat, quiet masses of shadow. If we can get a mountain peep in the distance, how fortunate! If not, perhaps we may find a rolling country, dotted with receding masses or groups of fine foliage. And our foreground; let us, if possible, secure some variety in it—bare earth varied by patches of vegetation, rocks, stumps, and old logs, rather than flat unbroken stretches of either grass or earth. Having arrived at a point where we have found some elements of a good picture, let us so compose them, by moving from point to point, that we get our distance open and our main groups on either side; but let the group of one side be more important, if possible, than that of the other. There is nothing which makes a more picturesque contrast than a fine full mass of foliage, balancing some quaint denuded stem, festooned with vines. Our foreground should have some important feature of interest, either suitable figures or cattle, or something of striking form, or light and dark, and not precisely in the centre, but generally a little either to one side or the other. It is seldom that such points can be put down in the extreme corners with good effect, as they carry the eye out too far from the centre of the work.

HINTS FROM AN ARTIST'S NOTE-BOOK.

—To make everything in a picture equally important is to make it utterly feeble. The artist has the power of elision. The photographer has to provide a compromise. Suggestion is the art of compromise. A part doing duty for the whole.

Contrast gives emphasis; it has also to do with lines or forms crossing each other. It is strongest in the right angle and wanting in parallel lines.

Important points in a sky line should be carefully studied, outlines standing clear of each other and not running in nearly contiguous lines. These repetitions enfeeble a picture. Compare the pulsating effect of a papered wall when the light on it is concentrated to a particular area, and the rest more or less in comparative shadow, with the same subject in open daylight you have simply a pattern.

Balance should govern masses and keep them within the precincts of harmony. It regulates proportion, which, in its turn, lends itself to beauty.

The faculty of placing an artistic mean between two or more existing elements constitutes much of the art sense of the artist.

Figures or objects placed at the cardinal points of a picture—said to be the thirds, fifths, and sevenths—acquire emphasis.

Of light and shade, it would be impossible to speak within the scope of a paper like this, but a contrasted instance may go some way in explaining extremes.

A single portrait subject under a bright sky. A photograph taken without any attempt to regulate the light will be flat and insipid.

Take, again, the same sky and the same sitter, but interpose between them a translucent material like sheeting with an oval opening near the face, continued on the lower side by a lunette of muslin. The stronger beam of light coming through the opening is followed by a feeble light coming through the finer textured muslin, while the diffused light of the whole sheet supports this.

The intenser light is so directed on the face that it shall focus over the nearer eyebrow. We now have the device adopted by all the leading painters, but more emphatically by Murillo and

Valasquez, Rembrandt, Rubens, and Vandyke.

Between the two extremes cited there is an indefinite variety. In dealing with the lighting of a subject let but intention exist, and its success will be the index of its fulfillment.

The last element I shall speak of is mystery. The undefined but unmistakable atmosphere which enfolds the indescribable entanglement of mingling textures fills one with a sense of mystery. The artist who would paint the moods of nature must penetrate its secret.

The photographer may revel in this depicting of mystery if he but understand it and feel its presence.

IRON-SILVER PRINTING

JOHN MARTIN HAMMOND

The iron-silver printing processes originated in about 1894, when Dr. W. J. Nicol, of Edinburgh, Scotland, announced the discovery of a printing method analagous to platinum, in which the salts of silver were used instead of the heavier metal. In the experiments of the inventor, and in its history, iron-silver printing, or "Kallitype" ("beautiful picture"), as Dr. Nicol enthusiastically called it, has closely paralleled the history of platinum printing.

The theory of platinum printing, as we all know, is the reduction of a platinum salt to metal in the presence of a ferrous salt in conjunction with a suitable salt of an alkali metal. The substances customarily employed in the process are iron oxalate, potassium oxalate and a double salt of platinum and potassium—potassium chloroplatinite.

If paper be washed with a solution of ferric oxalate, exposed to light under a negative and washed with potassium chloroplatinite and potassium oxalate, an image in metallic platinum will be formed in those places in which the light has changed the oxalate from ferric to ferrous condition. This was the first practical method of obtaining prints in platinum, and was so patented by N. P. Willis in the latter '80s. If, on the other hand, paper be washed with ferric oxalate and potassium chloroplatinite, and developed, after exposure, with potassium oxalate, alone, an image identical with the first will be obtained; and this is the basis of all commercial platinum printing methods of the present day.

The history of iron-silver printing has been identical with that just outlined. Silver nitrate was first used in the developer and was next associated with the sensitizing solution. There are several commercial varieties of this latter paper on the English market today. Until comparatively recently, there were a few on the American market. The paper is a cheap, rapid and reliable method of printing in silver, and its lack of popularity is to be ascribed, probably, to the general wane of favor which all sun-printing silver papers have suffered in recent years. At least, it may be said that the iron-silver processes give better results in beauty of tone and vigor of image than any other methods of "plain paper" silver printing.

The following is a summary of a series of experiments to determine the value of the various familiar methods of iron-silver printing. It will be well to

start with silver in the developer and iron on the paper, alone, or with merely a trace of silver to make the image in printing more visible.

The best silver-developing formulas are those of James Thomson. A summary of these with Mr. Thomson's notes is as follows:

Formula		I	II	III	IV
Iron-ammonium citrate	(grains)	32	50	28	18
Ferric oxalate	"	16	13	23	28
Cupric chloride ...	"	4	8	8	9
Potassium oxalate	"	33	35	35	36
Silver nitrate	"	10	16	19	18
Oxalic acid	"	10	16	15	16
Gum arabic	"	10	10	10	10
Citric acid	"	4	—	—	—
Pot. bichrom (5% sol.)	drops	10	5-10	5-10	5-10
Distilled water	(ounce)	1	1	1	1

Solution I gives "black and white effects."
II gives "softer effects."
III is "suitable for thin, flat negatives."
IV gives "fine gradation and delicate greys."

Developer:

Silver nitrate	40 gr.
Citric acid	10 gr.
Oxalic acid	8 gr.
Sodium phosphate	1½ gr.
Water	8 oz.

These formulas can be depended up to give the results listed. Their constituents are, however, a warring lot, the cupric chloride and silver nitrate being, on the face of it, irreconcilable in solution. I have found that the copper may be left out of the sensitizing solution and placed in the developer as cupric nitrate and a quantity of citric acid may be substituted for the oxalic acid. The solution will then be clear after the addition of the silver nitrate. I have obtained a clear solution with the following formula:

Ammonium-iron citrate	25 gr.
Potassium oxalate	35 gr.
Citric acid	30 gr.
Ferric oxalate	15 gr.
Silver nitrate	5 gr.
Water	1 oz.

Developer:

Silver nitrate	40 gr.
Copper nitrate	20 gr.
Water	8 oz.

No great harm will be wrought by leaving out the copper altogether. Addition of acid to the developing solution is not absolutely essential unless the quantity of acid in the sensitizing solution is decreased.

For sepia tones, Mr. Thomson recommends a two-operation formula consisting of a salting solution of mercuric chloride and citric acid, followed by a bath very much resembling his formula I with the copper left out.

The following one-part formula will, in my opinion, give results just as good.

Ammonium-iron citrate (brown)	34 gr.
Ferric oxalate	15 gr.
Potassium citrate	50 gr.
Citric acid	40 gr.
Mercuric nitrate	4 gr.
Water	1 oz.

Increase of mercury gives warmer tones. Development is with the silver developer.

A very simple silver-in-the-developer paper I have found may be made with the following solution:

Iron-sodium oxalate	600 grs.
Four per cent. solution potassium oxalate	3½ oz.

This gives great gradation of tone with good black. Contrast may be obtained by addition of a few drops of bichromate solution (potassium, sodium or ammonium) as ordinarily used by all gum printers. The solution will keep for a long time if pure water be used in its manufacture. *En passant*, do not dissolve ferric oxalate in hot water.

Prints made by any of the foregoing formulas should be fixed in a 2 per cent. hypo and washed for fifteen or twenty minutes before drying.

This brings us, naturally, to consideration of the silver-in-the-sensitizer papers. These will be preferred, no doubt, by many workers. The simplest of all formulas of this description is that published by Dr. Nicol in his original patent papers. It is:

Ferric oxalate	75 gr.
Silver nitrate	30 gr.
Water	1 oz.

The developer is:
For black tones,

Sodium acetate	1 oz.
Citric acid	30 gr.
Water	7½ oz.

For brown tones,

Sodium-potassium tartrate	1 oz.
Water	20 oz.

Bichromate solution is used as a restrainer and to give contrast. Prints made by this formula need to be cleared after developing. For this purpose a five per cent. solution of citric acid or ten per cent. solution of potassium oxalate is efficient. Fixing is with hypo, five per cent. solution. Washing must be thorough.

Another excellent formula—and a more recent formula—has been devised by Robert Hall. It is:

Solution A 20 per cent. solution of ferric oxalate.
Solution B 1 to 16 solution ferric-potassium oxalate.
Solution C Oxalic acid ..... 240 grs.
Ammonia (0.880) ..... 100 minims
Water ..... 4 oz.
Solution D 1 to 16 solution potassium-bichromate.

For normal negatives take:

A ..... 1 oz.
B ..... ½ oz.
C ..... 30 minims
D ..... 4 drops
Silver nitrate ..... 36 grain

Stir vigorously while the silver nitrate is dissolving.

It will be found that any of the formulas for home-made platinum papers can be modified to iron-silver purposes by substituting for the standard 1-to-6 potassium chloroplatinite solution a solution of silver nitrate made of 1 part of the silver salt to 12 parts of water. This opens a wide field for experiment of an investigatory nature.

Huebl's formula for coldbath platinum paper is as follows:

Solution A 20 per cent. solution of ferric oxalate, with 1 to 2 per cent. oxalic acid.
Solution B The above plus 1 per cent. lead oxalate.
Solution C 1 to 6 solution of potassium chloroplatinite.

For sensitizing for black tones take:

Solution B ..... 4½ parts
Solution C ..... 3 parts

If, now, a 1-to-12 solution of silver nitrate be substituted for solution C in this formula, and the paper developed in any of the standard blacktone platinum baths, a deep, pleasing brown print with pure whites will be the result.

The great difficulty with these silver-in-the-sensitizer papers is to obtain good black tones. If mercuric nitrate be added to the sensitizing solution, in the proportion of about four grains of this salt to twenty-five grains of silver nitrate used, no trouble at all will be found in obtaining these shades. This fact though surprising as regarded in the light of mercury's well known behavior with platinum developing papers I have found to be none the less true. It has also formed the basis of a recent English patent.

Generally speaking, the iron-silver processes are simple in operation and comparatively certain of result. They are more easy and certain than gum-bichromate printing, and are to be recommended as a fascinating field of experiment for all photographers interested in the more scientific side of their hobby.

The number of tones possible with these papers is almost endless. Iron-sodium oxalate paper, washed with silver, gives a beautiful steel-black. Containing silver in the sensitizer, it gives a reddish-brown. Generally speaking, the more concentrated the developer with the silver-in-the-sensitizer papers, the warmer the tone.—*Journal of the Photographic Society, Philadelphia.*

THE great men never know how or why they do things. They have no rules; cannot comprehend the nature of rules; —do not, usually, even know, in what they do, what is best or what is worst: to them it is all the same; something they cannot help saying or doing,—one piece of it is as good as another, and none of it (it seems to *them*) worth much. The moment any man begins to talk about rules, in whatsoever art, you may know him for a second-rate man; and, if he talks about them *much*, he is a third-rate, or not an artist at all.—*Ruskin.*

THE NATIONAL CONVENTION AT KANSAS CITY

The Thirty-third Annual Convention of the Photographers' Association of America has come and gone. Briefly, the Convention was a great success; the place of meeting was ample, and quite ideal for its purpose. There was plenty of room for all who attended; for meetings, the practical studio, the dealers fine displays and the picture exhibit. The profession of Kansas City, as hosts, did everything in their power to give the visitors a royal welcome and a "good time." There were a number of social entertainments, and an enjoyable evening at Electric Park in which many participated. The attendance was, we believe, not quite so large as last year, and the exhibit of pictures not as numerous as in 1912, nor as representative. There was abundant interest, however, and enthusiasm was evident with generous appreciation. The trade display was more interesting and more extensive than heretofore.

We regret to report that many familiar faces were missing, especially Eastern members.

The Association adopted a plan for a permanent paid secretary, on whom will evolve all the work of the Association. The most important move, however, was the change in the constitution, so that the Congress will be responsible for all the legislative work until 1917.

Officers elected were: Manly W. Tyree, president; W. H. Towles, first vice-president; Homer Harden, second vice-president; L. A. Dozer, treasurer.

The National meets at Atlanta, Ga., next year, and it seems only proper that the Southern photographers should have this privilege. The full report of the Convention will be given next month.

TOPICS IN LEADING PERIODICALS

Anastigmat and Softness, The. Chas. W. Doman. Aug. *Amer. Photography.*
Cold Light, Francois Dussand. July *Harper.*
Construction of Lenses Transparent to Ultra-Violet Rays, The. July 4th *Brit. Journal.*
Diffusion in Photography. Ernest Coustet. Trans. Aug. *Camera.*
Effects of Inter Reflection on Density Values, The. F. F. Renwick. June *Photographic Journal.*
Evolution of Photo Mechanical Illustration, The. A. J. Newton, F.R.P.S. June *Photographic Journal.*
Fog in Development. July 4th *Brit. Journal.*
Ferro-Argentum Paper for Printing-out or Development. A. J. Jarman. Aug. *Camera.*
Field for Commercial Photography, The, G. D. Crain, Jr. Aug. *Amer. Photography.*
Gas Light Papers. Wm. E. Monroe. Aug. *Amer Photography.*
Hot Weather Troubles. July 11th *Brit. Journal.*
Home Portraiture. A. H. Lisett, F.R.P.S. Aug. *Photo Times.*
Indexing Negatives. W. F. Davison. Aug. *Amer. Photography.*
Influences Modifying Color Rendering. July 4th *Brit. Journal.*
Instantaneous Shutters. July 4th *British Journal.*
Imperial Six-On Bromide Printing Machine, An. July 11th *British Journal.*
Improving Apparatus. July 25th *British Journal.*
Intensification and Reduction. H. W. Bennett. June *Photographic Journal.*
Multiple Negatives. July 18th *Brit. Journal.*
Novel Application of Photography to Scientific Pictorial Ornithology. R. W. Shufeldt, M.D. Aug. *Photo Times.*
Portrait Post Card Studio, The. D. E. Jakot. Aug. *Amer. Photography.*
Photography for the Press. *March Photo Miniature.*
Practical Reservoir for Developing Solutions, A. Frederick V. Fuller. Aug. *Camera.*
Pictorial Treatment by Chemicals after Manipulation of the Negatives. David J. Cook. Aug. *Photo Era.*
Scientific Floral Photography. Wm. S. Rice. Aug. *Photo Era.*
Suggestions for Keeping Stock Solutions of Sulphite Soda. Louis J. Curtman. Aug. *Photo. Times.*
Simple Test for Pure Paper, A. July 18th *Brit. Journal.*
Uranium as an Intensifier and Toner. James Thomson. Aug. *Photo Era.*
Why Stereo-Photography Unpopular? O. L. Grubbs. July *Camera Craft.*

PICTORIAL PROFESSIONAL PHOTOGRAPHY

THE way in which modern professional portraiture has been influenced by pictorial amateur work is one of those things which is sometimes referred to vaguely, at others ignored, and yet again pooh-poohed, according to the circumstances of the conversation and the persons engaged in it. We have no hesitation in saying that modern professionalism owes much to the stimulus and inspiration of the work produced by the progressive amateur with an outlook of individualistic character and the courage of his artistic beliefs.

We remember hearing the remark, a good many years ago, that the photographer and the artist should work together—the one supplying the craftsmanship and the other the artistic perception. For various, and perhaps fairly obvious, reasons, such a partnership arrangement could only be satisfactory very occasionally, only indeed when there was the closest sympathy existing between the collaborators. What has actually happened is much better. It is a grafting of the pictorial on to what was merely craftsmanship, it is the use of photographic methods to express artistic ideas, it is the influx of a leaven of enthusiastic and well-directed effort.

In the earliest days of the portrait studio many professional workers were men who had had an art training, men who were able to draw and paint, and who turned their abilities to photography because they believed in it as a means of money making, as well as a method of graphic art. When the dry plate had become an established fact, the methods were so simplified that scores of men, often failures in other directions, were attracted to the business, as one which could be learned quickly and which yielded a fair income.

Competition inevitably grew keener, prices were cut, work fell off in quality, and a public, no longer interested in that wonderfulness of the photograph which in the early days had been a powerful attraction, found little of interest in the professional's productions, the best of which might be most charitably described as "academic" in character. Unfortunately, the smaller studios are pretty much the same to-day as they were twenty years ago, and in consequence afford little more than a precarious livelihood to their proprietors. But of the best professional output of to-day it may safely be said that a great gulf divides it from most of that of twenty years ago.

It is the amateur who has shown how vastly superior is the simplicity and directness of portraits to the irritating complexity of the older fashioned painted background and accessory style. Nor has this been the result of accident, for in few situations is it possible to produce a portrait with more spotty effect than can be obtained in a sitting-room with a patterned wallpaper and numerous objects on the wall scattered about on mantelshelf or side table.

We have already suggested that the influx of a leaven of enthusiastic and well-directed effort has influenced the professional outlook, and one is reminded of this very forcibly when going over in one's mind the names of many who are from one point or another well-known professionals to-day. The Cadbys, Miss Winifred Prout, E. O. Hoppé, Furley Lewis, Elwin Neame, and Marcus Adams are a few of the names that occur to one at once, workers who have had no professional training of the stereotyped sort, but who in each case have by the individuality of their work created

a special demand for it. Naturally, there are others who, though brought up to their craft, have developed their own style, and have succeeded by reason of a characteristic quality of work.

We have used the terms amateur and professional, and in some sense have employed them as being one of the antithesis of the other.

We have meant by *amateur* the worker who has worked for his own pleasure. The true meaning of the word is, of course, one who works for the love of the work. In this sense the professionals, who are turning out the best work today, are amateurs, and their pictures bear the stamp of having been produced by those whose heart is in their work. Commercial considerations cannot be overlooked, nor is it well that they should be, for they are an added stimulus. The ambitious worker nowadays is bent on the obtaining of not likeness merely, but of dignified treatment, or of fine decorative effect, or of the rendering of character.

And when we write of rendering of character we do not mean merely individual character. A woman's portrait should be something more than indicative of that woman's characteristics; it should be indicative, or, at all events, suggestive, of the characteristics of the sex—in a word, it should be essentially feminine.

This is not to be obtained by inclusion of vases of flowers or fancy work; the touches must be more subtle. The cultured, educated classes today want something more than mere records, even pretty records, and these classes always have an imitative following, also with money to spend.

The amateur worker led the way, in some cases because he ran no financial risk, and in others because he had the courage of his convictions. His work was the outcome of insight, he was free from the trammels of a stereotyped convention, and the freshness, the spontaneity of his productions ensured their appreciation by thinking people, whether customers or confrères.—*Amateur Photographer.*

ARE YOU IN RIGHT?

THERE are communities that are suffering for the thousands who are filling the mistaken roles of doctor, lawyer, preacher and what-not. They are "in" wrong.

They *would* be successes if they were engaged in the work for which they were fitted by nature.

The successful ditch-digger is covered with as much real glory as though he were a successful railroad magnate—because he has accomplished something—he has done as well as he could, that thing which he could do best. He is in right.

If your work is congenial—no matter how hard the day has gone—you regret to leave it at night-fall—you take some of it home with you—you cannot leave it behind like a garment—you unconciously, take some of it home with you because you love it—

Because you're in right.—*Harris Monthly.*

TRANSLATIONS AND ABSTRACTS FROM ABROAD

BY E. J. WALL, F.R.P.S.

Photographic Effects of Low Potential Current

Probably everyone is familiar with the curious markings obtained by passing electric sparks over a dry plate; these have hitherto generally been ascribed to the current itself, but the Rev. H. V. Gill, in a paper before the Royal Dublin Society, showed that these markings are actually due to the luminosity of the discharge, and that by using non-luminous discharges of from 200 to 400 volts the results are quite different. The results obtained show that the effect of such a current on sensitive plates is complicated, and depends to a great extent on the nature of the terminals placed at the surface of the plate, between which the discharge takes place. The ions coming from the positive terminal seem to play the chief part in reaction. When, for example, copper is employed as positive terminal, a considerable region of the plate surrounding the point of contact is found to be blackened; on the other hand, when platinum is used no blackening of the plate is produced. Silver and other metals produce characteristic effects. The effect at the negative terminal is very much less and does not depend on the nature of the terminal.—*Brit. Journ.*, p. 465.

Rise in the Price of Dry Plates

The leading English plate manufacturers have raised the price of dry plates about 25%, thus the ¼ plate, 3¼ x 4¼, is raised from 1 shilling to 1s. 3d. (from 25 to 30 cents) and the ½ plate, 4¾ x 6½, from 2s. 3d to 2s. 9d (from 54 to 66 cents). his step has become necessary due to the increase in the price of raw material, particularly the glass, and fuel, labor and replacement of plant have also advanced of late.—*Brit. Journ.*, 1913, p. 472.

Development of Plates Exposed at Night

R. Williamson recommends the following procedure for the above:

No 1

Pyro	60 grains
Potassium metabisulphite	30 grains
Water to	5 oz.

No. 2

Sodium carbonate cryst	½ oz.
Sodium sulphite cryst	½ oz.
(Dissolve separately)	
Water to	10 oz.

For use take No. 1 ½ oz., No. 2 ¼ oz., water to make 2 ozs. and add 1 to 4 drops of 10% sol. potassium bromide. The temperature should be 55° F. Flood the plate with the developer and on the first sign of an image add 1 oz. of water to the developer and continue adding water as density accrues. When the high lights are dense enough rinse plate under tap and immerse in a dish of plain water for 10 or 15 minutes and then fix in acid hypo. The resultant negatives show but little halation, no hard high lights and as the action of the developer is so slow, about 30 to 45 minutes, three dishes can be watched at the same time.—*Brit Journ.*, 1913, p. 474.

Another Modification of Oil-printing

M. Demachy, whose work in gum, bromoil and oil has obtained world-wide fame, invented some time back a method of transferring an oil print, much after the fashion of monotype pictures; now he has hit upon something else and in a private letter to F. C. Tilney, the well-known art critic, he says: "I have been working at a most fascinating corollary to transferred prints. You have probably seen drawings in charcoal—complete and finished drawings—fixed in the usual way and colored right over the black and white picture, with Faber, or Hardmuth, or Conté colored pencils. If so, you must have noticed that no suggestion of the black charcoal image subsisted, and that the resultant picture resembled, in a way, a postal picture of the rubbed in style. Mv friend M. Homère—a painter—suggested that a faintish transferred oil print might be used in the same way, with similar results, we tried it and it works perfectly." One may well question whether the result can be called a photograph, but for the advanced professional who has, either personally or through others, command of a skilled colorist, there ought to be money in this.—*British Journ.*, 1913, p. 481.

A New Development Paper

The Société Anonyme Utocolor of La Garenne-Colombes, Paris, has just placed upon the market under the name of a special development or gaslight paper, which will by variation of exposure and development give any tone, green, sepia, brown, terra-cotta, yellow, red and violet. "The paper is certainly a distinct novelty in photographic ma-

terials, and one can only conjecture the composition of an emulsion which may be developed both with an acid and an alkaline solution and will withstand notable amounts of hypo in the developer." Thus says the reviewer of this paper, but as a matter of fact an acid developer is not used; citric acid is used but always there is enough sodium carbonate to more than neutralize it. In all probability the emulsion is nothing more than a very slow chloro-bromide or chloride, as it is about twenty times slower than any ordinary gaslight paper.—*Brit. Journ.*, 1913, p. 481.

Photographers Keep Out

In the Italian province of Cuneo, close to the French frontier, photography is forbidden and even the carrying of a camera renders one liable to a fine. At Palanza, Stresa and Baveno on Lago Maggiore all photography is barred on account of the military works.—*Phot. Rund.*, 1913, p. 191.

Another Screen Plate Patent

R. Ruth and A. Schuller point out that most screen plates are too dark for transfer to paper and in order to overcome this defect they propose the use of an acid and a basic dye for coloring the screen elements. After development the basic dye can be easily washed out of the emulsion and thus the color sufficiently lightened to enable the results to be used on paper. (It is, of course, a well-known fact that acid dyes have a great affinity for gelatine, whilst basic dyes have practically none for gelatine and a great affinity for cellulose).—*Fr. Pat.* 449,080, 5 Oct., 1912.

Kinematography in Colors

The Ica Aktien-Gesellschaft of Dresden has patented a devise for shifting the revolving two- or three-colored sector shutter in kinematographic projectors for natural colors, this being effected whilst the machine is in motion if required by the pressure on a small lever. The idea of the patent is to enable the operator to shift the colored sector with the film, so that the respective positive and colored sector are in synchromism.—*Ger. Pat.* 259,931 18 Jun., 1912.

Removing Backgrounds From Negatives

D. Berlin describes his chemical method of removing undesirable backgrounds from negatives. The negatives must not have been hardened. A saturated solution of iodine in a saturated solution of potassium iodide is prepared and the cold dry negative is coated with a normal collodion thinned down with an equal quantity of ether and methyl alcohol. As soon as the collodion is dry the iodide solution should be painted on with fine camel's hair brushes, and as the solution attacks the hair it is advisable to use two alternately keeping the one not in use in water. The outlines must be rigidly kept and the metallic silver is rapidly converted into silver iodide; its color being red or orange, if it is yellow there is too little iodide used. As soon as the outlines are painted the plate should be laid flat and the background painted all over, and left till surface dry, any grey places must be repainted. Then rinse for five seconds under a tap and blot off with blotting paper and leave for 20 or 30 minutes till the iodide becomes white, then fix, remove the collodion film with the ether and methyl alcohol and refix in a strong hypo bath, in which the background should become quite clear.—*Brit. Journ.*, 1913, p. 376.

Monochrome Focussing Screens

The old idea of using a so-called monochrome focussing screen so as to enable the photographer to better judge the rendering of scenes by the plate has been revived. An unexposed plate should be fixed and thoroughly washed, dried and stained up in a weak solution of nigrosine (water-soluble) then dried and placed over the focussing screen. Obviously if one used isochromatic or panchromatic plates with a yellow screen this would be useless.—*Kamera-Kunst*, 1913, p. 146.

A Studio Camera Back

H. Boesche of Magdeburg has introduced a circular revolving camera back, which carries the focussing screen and two or more dark slides, the shutters of which may be drawn. By pressing a knob the back can be revolved and the plate ready for exposure immediately brought into the focal plane. The idea is good but from the illustration the back is much larger than the camera and looks a little strange.—*Phot. Ind.*, 1913, p. 908.

Rollers for Oil Printing

H. Seemann advises the use of wooden rollers covered first with felt and then plush for applying the pigments to the oil prints. The pigment must be made thinner than when the brush is used. He also suggests making plush pads stuffing them with felt or absorbent cotton and fastening to sticks.—*Phot. Rund.*, 1913, p. 166.

A New Compensator. The Enixantos

The loss of light towards the edges of a plate when using wide angle lenses is, of course, well-known, and Miethe many years ago suggested the use of a convex lens of smoked glass cemented to a concave lens of white glass, which formed a plane parallel plate that was placed behind the lens. Rodenstock, the well known optician of Munich, has now introduced one under the above name, constructed on the same principle but of yellow glass, thus reducing the action of the central more refrangible rays—*Das Atelier des Phot.*, 1913, p. 63.

Direct Enlargements on Carbon Tissue

W. Risse of Flörsheim describes his method of enlarging direct on carbon tissue. He uses a powerful arc lamp with inclined carbons

and a condenser. The tissue he sensitizes in a 4 to 5% solution of bichromate and after the tissue is dry he stores it for four or five hours in a large printing form to flatten it. The negatives are reversed in front of the condenser to avoid double transfer. The exposure depends upon the density and color of the negatives but for an enlargement from a 7 x 9½ inch negative to 24 inch, three to four hours are required and for a 55 inch enlargement about nine hours. The cost of the current for the former size is said to be 3 to 4 marks (about 75c to $1).—*Phot. Korr.*, 1913, p. 259.

Blue and Green Toning of Transparencies

Professor Namias suggests the following method for these tones, and it is particularly suitable for transparencies of all kinds:

Green ammonio-citrate of iron	2 g.	14 grains
Sulphuric acid	5 ccs.	35 minims
Water	1000 ccs.	16 fl. ozs.

Add 1 cc. (7 minims) of 1% solution of potassium bichromate and keep in yellow bottles. To every 250 ccs. (=8¾ ozs.) add 0:5 g. (=7.5 grains) of powdered potassium ferricyanide and as soon as dissolved immerse the transparency. When quite blue rinse and immerse in 0.1 to 0.2% solution of ferric chloride acidulated with hydrochloric acid and then wash. Now immerse the transparency in

Hypo	100 g.	700 grains
Sodium acetate cryst. ..	50 g.	350 grains
Glacial Acetic acid	5 ccs.	35 minims
Water	1000 ccs.	16 fl. ozs.

A beautiful blue transparent image is the result.

For green tones ferricyanide of vanadium is used. The bath is prepared as follows:

Amonium vanadate	10 g.	700 grains
Sulpuhric acid	20 g.	1400 grains
Heat for a short time and then dilute with		
Water to	100 ccs.	16 fl. ozs.

To the iron and ferricyanide solution given above one-fifth of its bulk of the vanadium solution should be added and used at once as the solution rapidly spoils. Unfortunately, neither of these tones are absolutely permanent, they both bleach out in course of time but they can be restored by immersion in a 0.5% solution of nitric acid to which 0.1 to 0.2% of bichromate is added.—*Phot. Korr.*, 1913, p. 184.

Blood as a Color Sensitizer

Eder of the K. K. Lehr-und Versuchsanstalt of Vienna, whose work on color sensitizing is a classic, has been examining one of the coloring matters of blood as a sensitizer for chloride emulsion. W. Hausmann Blochemische Zeit, 1910, p. 176) pointed out that hematoporphyrin, which is allied to urobilin, is an intense photodynamic sensitizer and in light kills red blood corpuscle, in fusoria, etc., and that its principle action was evoked by wavelength 500; he also observed a similar action with chlorophy and as this had long been used as a sensitizer Eder determined to test the coloring matters of blood. He used oxyhemoglobin, henim and the hydrochlorate of hematoporphyrin; the two former gave no sensitizing action but the latter gave marked sensitiveness, especially with silver chloride at 630, 583, 555 and 525. These maxima correspond with the chief absorption hands of the solution and also show the characteristic shift towards the red end as do all other color sensitizers. Probably this is of no practical value but it is interesting theoretically as confirming the usually accepted rule of the interdependence of the absorption and sensitizing maxima and the shift towards the red, this is also the first known sensitizer of animal origin.—*Phot. Korr.*, 1913, p. 287.

The Tell Plate

The Albert Coy of Munich have just introduced a new plate for half-tone work. According to the description given by H. K. Broum, instructor at the Vienna Lehranstalt, it is a zinc plate coated with resinous resist and it can be at once coated with bichromated fish glue, and the aforesaid company have brought out a special kind for this work. After whirling and whilst still warm the plate is printed under the negative and then washed in water as usual. The image appears in a beautiful blackish-brown on the red ground. The places freed from the fish glue are rapidly wiped with "Tell Oil," a special preparation that removes the resin ground and the plate is ready for etching. After etching the fish glue image is removed by brushing, the plate polished with a damp chamois leather and gently dried by heat. A pull is taken and if fine etching is required the ground removed with benzine (not benzole). Although the plates cost rather more than the usual zinc, the saving in time through the absence of any inking up and powdering and the ease with which the fine etching can be controlled compensates for this.—*Phot. Korr.*, 1913, p. 290.

One of the most important details which helps successful portraiture is to let the sitter feel comfortable; especially let him feel comfortable so far as the light is concerned.

To study other people's photographs helps our photography; to study their pictures cultivates our art side.

PHOTOGRAPHY IN GREAT BRITAIN

A Review of the Month from our own Correspondent

London, July 1st.

PHOTOGRAPHICALLY, in England, the season commenced last month. That is, of course, the photographic season as known to the multitude and especially to the button-pressing fraternity, for in this country just as much as in the New World the first suggestion of summer and holidays hatches thousands of amateur camera men who seldom take hold of an apparatus at any other season of the year. And in all fairness it must be admitted that a good percentage of the tourists who throng the English show places belong to the United States, although other countries contribute proportionately. But the American amateur, as his English confrère knows him, is an individual who simply bubbles with enthusiasm over his hobby. This enthusiasm which is often commented upon as being characteristic of the hustler is manifested both in the tyro and the advanced worker, although in the latter class, of both nationalities, the resignation of the true artist is perceptible. As he pays for his exserious amateur in this country seems to be realizing that his sole object does not lie in making systematic exposures of each and every little object of interest that comes his way. Only the other day a prominent exhibitor remarked to the writer that he had just returned from a fortnight tour in Scotland and although he carried a camera with him, never made a single exposure just because he was not "artistically impressed with the views he saw."

A Device for the Pictorial Worker

The recent annual photographic exhibition in London has been productive of many and varied little devices for smoothing the way of the pictorial photo-seeker. In the lens section something more than a freak lens worth £200 for producing life-size exposures was shown. A simple attachment for simplifying the process of focussing pictorial subjects merits more than ordinary attention.

It is not necessary to launch into an optical analysis of the one exhibited and sold at an expensive figure, for it will be found by experiment (the screen being employed for focussing only) that an ordinary piece of blue glass purchased from a dealer for a few cents materially assists the amateur in the composition of his subject on the ground-glass. Care must be taken to have the glass free from flaws and above all it must not be carelessly left in front of the lens during exposure.

Increased Cost of Materials

A few days ago the London Press made the momentous announcement that British dry-plate manufacturers would increase their prices twenty-five per cent. In effect, this means that the amateur will have to pay 1s 3d (30c) for his box of a dozen quarter-plates instead of a shilling as hitherto. Half-plates will be in future 2s. 9d. (66c) instead of 2s. and 3d. and so on in proportion with other sizes. The Rev. F. C. Lambert, F.R.P.S., suggests that this increase in the cost of plates will make the amateur more careful of their use and act as a salutary check on the previous indiscriminate snap-shotting referred to in the above note. On the other hand, says Mr. Lambert, there can be little doubt that the introduction of a high-class plate at a shilling a dozen in its most used size had a tremendous effect in popularizing photography, so much so that it gave rise to the saying of the moment, "the penny plate."

R. P. S. Annual Exhibition

The Royal Photographic Society proposes to hold its annual exhibition this year from August 25th to October 14th. Intending American exhibitors should note that they may send their entries unframed but properly mounted to 35 Russell Square, London, W. C., before August 1st. It is, of course, needless to mention that the "Royal" is the premier British photographic exhibition of the year. No prizes are awarded and an entrance fee of 25 cents must be paid on all exhibits. This year the classes are for pictorial photographs, color transparancies, scientific exhibits, natural history and lantern slides.

Coloring Prints Without Solutions

A well-known exhibitor, both in England and the United States, informed the writer in London last week of a novel method he is thinking of adopting for tinting prints and enlargements. Every worker associates the process of tinting, toning or dyeing photographs with messy aniline solution and it is partly for its novelty in this respect, combined with the fact that no previous printed account of the method has been given that I reproduce it here "in extenso." The prints to be toned may be either P. O. P. bromide or gaslight and must, after the final washing in the ordinary way, be well dried and hardened in

the stereotyped formalin solution. Next procure from a stationer a few sheets of transparent gelatine paper—the kind employed by architects and draughtsmen with the exception of the printed lines. Previously prepare a warm solution of aniline dye of the required shade and after cutting down the transparent paper to the exact size of the print, soak it in the warm solution. After a few moments it will be noticed that the paper is becoming gradually tinted by the dye. The longer it remains in the solution the deeper the tint becomes. When the required shade has been obtained wash the paper for a few moments in running water then squeegee it firmly into contact with the print to be colored, taking especial care to extract all air-bubbles. After drying, the transparent paper will be found to closely adhere to the print producing an effect of combined toning and artistic diffusion. A similar method could be adapted to lantern slides but it is just as easy and less trouble to stain a developed but an exposed plate and to bind it up with the slide, rather than follow out the above method.

Pioneer of the Dry Plate

As I write, news has just reached me of the death of Mr. Alfred H. Harman, at Haslemeve, Surrey, a pioneer of the dry plate. He was the founder of the Ilford Photographic Plate Co., now one of the principal London manufacturing concerns. Mr. Harman's estate is valued at £333,739 and he has made many charitable bequests.

Hot Weather Work

Hot weather hints for dark-room workers are at this time of the year as prolific as flies on a July morning. An unfortunate characteristic, however, of most of the hints one hears passed along in the club room is their utter impracticability. In a daily newspaper an evidently inexperienced writer makes the absurd suggestion "that the temperature of the dark room might be materially reduced by fixing up some sort of an arrangement to maintain a continuous spray of running water on the bench and near the dishes." A more practical alternative which can be recommended is the spreading of a thick wet cloth on the developing bench and having it frequently moistened with fresh cold water. On this the dishes must be kept until the plates are developed.

Advances in Color Photography

Recently, many different processes of direct color-photography have loomed into prominence in this country and in France. The autochrome, made by Messrs. Lumiere, will be quite familiar, but the new Paget color plate as a serious rival to the autochrome is only just beginning to find its feet in this country so of course it cannot be expected to be properly established in America yet. The principles of the two plates mentioned are similar but in place of the tri-colored starch grains forming the screen of the autochrone a series of microscopic spaces dyed red, green and violet are employed in the Paget plate to form the screen. These are worked into an accurate geometrical design. In conjunction with this screen a panchromatic plate is exposed in the camera, developed in an ordinary solution and a positive printed on glass from it. This positive when bound up in careful and exact register with the screen through which the negative was taken constitutes a perfect color record of the subject photograph. Thus several positives may be printed from one negative. The process of the Paget plate is almost identical with that of the now defunct Thames color plate except that the finished results are much clearer and finer.

Colored Prints by Crayons

Mr. Robt. Demachy, at the invitation of an English trade journal, is exhibiting fifty oil transfer prints in London. Some of these are remarkable productions, especially those which are colored. The colors were applied, says M. Demacky, in an explanation, after the prints had dried and by the aid of ordinary crayons.

British Photographic Convention

The annual Photographic Convention will be held this year next week end at Bangor, Wales. The usual galaxy of lectures and papers on diverse photographic topics has been arranged.

J. B. SUTCLIFFE.

Too much care cannot be bestowed on the reception room. Too often it is neglected, the furniture old, and the display of pictures never changed. It is possible to go to the other extreme and aggressively overcrowd. Especially is this the case with the display. Do not cover the walls with a crowded mass of work. A few choice examples, carefully selected and thoughtfully arranged, will be less likely to tire a prospective sitter and more likely to please.

We hear much about the necessity of using pure chemicals. The mistake is that we usually associate the advice with our visits to the store. But there is little danger of impure chemicals from the dealers compared with the dangers of impurity afterward. All developers are liable to deteriorate when mixed, or even when bulk is first broken. And if care is taken against these latter chances of deterioration there will be little need to curse the dealer.

NEW BOOKS

What is Art?

The author of "The Conception of Art" (Doubleday, Page & Co.), Mr. Henry R. Poore, A.N.A., is a landscape artist of some reputation. His book, therefore, may be considered, in a sense, as authoritative. He has written it, as the publishers' advertisement puts it, in order to give, "in condensed form a painter's opinion of the meaning of art * * * addressed in the simple phrases of ready discourse to the laymen and student of art," and in order "to classify to such minds much that for want of explanation or argument has assumed an aspect of mystery and speculation."

Undoubtedly, a worthy undertaking, and one which should command our respectful attention, especially when as in this instance, it emanates from one who is himself a practitioner in art. How does Mr. Poore acquit himself of his important task?

He begins with a definition and, in "the simple phrases of ready discourse," he lays it down that "Art is the expression of that power in man which is regulative of the form of that which he creates for his aesthetic and intellectual pleasure." And he goes on to elucidate:

"At first sight the word 'quality' (the word is not employed) may seem to weaken the larger scope of this definition, but were art regulative of the thing which man creates for this pleasure, she would thus have to do with subject, with which she has nothing to do."

What does all this mean? If art be that power in man which is regulative of the form surely it is regulative of the thing. What of the thing does art know other than its form? Mr. Poore, however, goes on to explain further: "By this definition," he says, "art is distinctively placed out of the class of things and in the class of attributes," and he quotes, with approval, Coleridge's saying, that "Art is not a thing; it is a way." Very true; but if that is all Mr. Poore means by art, there was surely no pressing need for a big volume on the subject. The art of doing a thing is, of course, the way of doing it. Any school girl knows that. But when Mr. Poore set out to write on "The Conception of Art," art must have meant something far more recondite than this common use of the word.

Just what Art did and does mean to Mr. Poore we are still at a loss to fathom, even though he records and comments on what Aristotle, Ruskin, Tolstoy, Whistler, Delsarte, Oscar Wilde, Rodin, Roger Fry and the modern critics have had to say on it. We are told that art "instead of being a thing is the expression, through that thing, of certain fixed and essential principles whose presence, like yeast in the lump, raises it from the inert condition of simples, through varied degrees of change, to a more admirable estate and service." And these are "the simple phrases of ready discourse" addressed to the layman and student which are to classify the mystery and speculation surrounding art!

But let us examine Mr. Poore's argument fairly, with the best intention to do him every justice. If we understand Mr. Poore aright, art must be more than the mere way of doing a thing. It must be a method founded on "certain fixed and essential principles." Well, what are those principles? Are they acquired or innate? If acquired, then by what process of evolution have we acquired them. If innate, by what psyschology are they demonstrable? Surely Mr. Poore is confusing himself with two concepts at one and the same time. There is an art or a way of doing a thing, and there is the thing done as art. Which of these two ideas are we to deal with? Let us deal with either the one or the other but do not let us confuse ourselves with both at once.

But Mr. Poore's definition does not even support his own conclusion. If art be "the expression of that power in man * * * for his aesthetic and intellectual pleasure," the thing art is realy insisted on, and not the quality or power. There can be no expression except as form, and all we really and truly know of any creative power or quality is what the form created tells us. It is, therefore, the *form* and the form only with which art must properly be concerned. Mr. Poore, realizes this unconsciously, for the major portion of his book is given up, not to illustrations of his own conception of his definition, but to a consideration of the *forms* in which the great artists have expressed their powers.

The truth is that man's power will continue to remain a mystery and a speculation, though we write whole volumes in folio, on art. It is not easy for us to jump out of our skins and sit in our bones. But man's achievements, the embodiments of his power, are ever fruitful of delightful surprises and strange experiences. It is these that surround art with its atmosphere of mystery and will continue so to surround it if art be the wonderful revealing power it is. So that to conceive of

art as a quality in the abstract is like speculating on the number of angels who can dance on the point of a needle.

Mr. Poore mentions M. Bergson's "Creative Evolution." We wish he had referred to that profound thinker's "Laughter"; for he would there have found a few pages the reading of which could have enlightened him on the nature and object of art. M. Bergson asks the question: "What is the object of art?" And his answer amounts to the statement—The revelation of the *individuality* of things. Could we, he says, come into direct contact with reality, art probably would be useless, "or rather we should all be artists, for then our soul would continually vibrate in perfect accord with nature. Our eyes, aided by memory, would carve out in space and fix in time the most inimitable of pictures. Hewn in the living marble of the human form, fragments of statues beautiful as the relics of antique statuary, would strike the passing glance * * *. Deep in our souls we should hear the strains of our inner life's unbroken melody,—a music that is oftentimes gay, but more frequently plaintive and always original. All this is around and within us, and yet no whit of it do we distinctly perceive. Between nature and ourselves, nay, between ourselves and our own conciousness a veil is interposed; a veil that is dense and opaque for the common herd,—thin, almost transparent, for the artist and the poet. What fairy wove that veil? Was it done in malice or in friendliness? We had to live, and life demands that we grasp things in their relations to our own needs. Life is action. Life implies the acceptance only of the utilitarian side of things in order to respond to them by appropriate reactions; all other impressions must be dimmed or else reach us vague and blurred. I look and I think I see, I listen and I think I hear, examine myself and I think I am reading the very depths of my heart. But what I see and hear of the outer world is purely and simply a selection made by my senses to serve as a light to my conduct; what I know of myself is what comes to the surface, what participates in my actions. My senses and my consciousness, therefore, give me no more than a practical simplification of reality. In the vision they furnish me of myself and of things, the differences that are useless to man are obliterated, the resemblances that are useful to him are emphasized; ways are traced out for me in advance along which my activity is to travel. These ways are the ways which all mankind has trod before me. Things have been classified with a view to the use I can derive from them. And it is this classification I perceive, far more clearly than the color and the shape of things * * *

"We catch only the impersonal aspect of our feelings, that aspect which speech has set down once for all because it is almost the same, in the same conditions, for all men. Thus, even in our own individual, individuality escapes our ken. We move amidst generalities and symbols, as within a tilt-yard in which our force is effectively pitted against other forces; and fascinated by action, tempted by it, for our own good, on to the field it has selected, we live in a zone midway between things and ourselves, externally to things, externally also to ourselves. From time to time, however, in a fit of absent-mindedness, nature raises up souls that are more detached from life. * * * Were this detachment complete, did the soul no longer cleave to action by any of its perceptions, it would be the soul of an artist such as the world has never yet seen. It would excel alike in every art at the same time; or rather, it would fuse them all into one. It would perceive all things in their native purity: the forms, colors, sounds of the physical world as well as the subtlest movements of the inner life. But this is asking too much of nature. Even for such of us as she has made artists, it is by accident, and on one side only, that she has lifted the veil. In one direction only has she forgotten to rivet the perception to the need. And since each direction corresponds to what we call a sense—through one of his senses and through that sense alone, is the artist usually wedded to art. Hence, originally, the diversity of arts. Hence also the speciality of predispositions. * * * So art, whether it be paintings or sculpture, poetry or music, has no other object than to brush aside the utilitarian symbols, the conventional and socially accepted generalities, in short, everything that veils reality from us, in order to bring us face to face with reality itself. It is from a misunderstanding on this point that the dispute between realism and idealism in art has risen. Art is certainly only a more direct vision of reality. But this purity of perception implies a break with utilitarian convention, an innate and specially localized disinterestedness of sense or consciousness, in short, a certain immateriality of life, which is what has always been called idealism. So that we might say, without in any way playing upon the meaning of the words, that realism is in the work when idealism is in the soul, and that it is only through ideality that we can resume contact with reality. * * * "

Art, then, is man's effort, expressed in forms, to realize his vision of reality. It gives us pleasure because it enables us to experience our own unity with the reality it reveals. This *relating* power in the object realized is what we mean when we talk of the beauty and truth of art. This consciousness of our unity with the world-spirit which art arouses in us is our surprise and our wonder at the revelation presented to us by the artist's seeing and objectifying powers. And what does not offer such revelation and does not give us such an experience is not art, but mere barren imitation.

Of the making of formulae there is no end, and yet of quite satisfactory formulae there is a lack in some lines. The mistake is in wanting one formulae to work in all cases. Take the case of depression in business, poor trade, nothing doing—whatever you like to call it. It has been talked about since photography was and the formulae for its overcoming are numberless. But numberless formulae are not what the unsuccessful man wants—he needs one good one. It may be advertising, it may be different prices, it may be some specialty. Let him think over many means, using brains and judgment, and having chosen the right formula let him straightway apply it.

EDITOR'S TABLE

The Convention

THE National Convention ended with great success. It will be a long time before many of the fortunate attendants will feel the last of it. The highest praise is due to those who developed such a splendid result, and we earnestly thank the officers of the Thirty-third Convention in the name of Photography, for the untiring, well-directed, and self-sacrificing effort they put forth. We believe the future will demonstrate that their work was well directed, and will be productive of much good. The detailed report of the Convention will be given in our pages next month.

Prices and Quality

"SMALL profits and quick returns" may help to run a grocery or a dry-goods store, but it is scarcely the motto to tack over the entrance to a studio. A photographic business must depend too much on the personal equation of its head; and cannot be enlarged by the creation of departments or increasing of the number of clerks. There is ever a tendency to think of the evil of price-cutting whenever competition is unduly keen or prices unduly bad. But the stress of this unfair fighting inevitably results in a poorer grade of work.

Let any enterprising, talented, incoming young photographer take the pains to instruct himself in the business methods of those photographers who have come out best, both financially and in reputation after a twenty-five or thirty years' career in the business, and see whether the successful men have been the cheap men. We think he will find that those who are best off are the ones whose aim it has been to produce good work, work such as they might always feel did them credit, and who adhered strictly to fair prices—prices which remunerated them in a fair way for the labor and talent which they bestowed upon their work.

Any sensible individual, if he stops to reason, will see that it is a mean spirit of rivalry, which can only end in short-lived success, to plant yourself beside an honest, well-established photographer, either in city or country town, and, by cutting prices, rob him of a share of his well-earned business. If you continue, you ruin the profits for both. If you, after a time, remove, to repeat your game in a new location, what have you gained? Surely, nothing in reputation, and the expenses of bandying about will soon have eaten up your miserable, scanty profits. If it becomes necessary to locate yourself in the vicinity of others of your craft, honest, good price men, or cheap men let them be—*keep your prices up*, and let your competition with them be in the excellence of the work. Instead of doing cheaper work than they do, *do better work*. Let the competition be a *best man* competition, and, if you crowd out your rival, it will then be simply carrying out one of nature's infallible laws, the survival of the fittest.

The photographer, somewhat like the artist painter, should not espouse his business with the sole view to making money. If his aim be the acquiring of a fortune, he should choose another field for his talents. A few instances there may be where a considerable amount of money has been acquired even in a comparatively short time by photographers, but these must be looked upon decidedly as the exceptions and not as the rule. Such instances have been the result of remarkable

business tact and skill, and fortunate location, certainly not of cheap work.

Photographs in the Home

The possibilities of at-home portraiture is fast becoming one of the wonders of the photographic world. In many ways the gallery is now as unreal and untrue as it is necessary. Necessary it undoubtedly is, and apt to remain, but it is not worthy of the practical monopoly which has been accorded it. The artificiality of much connected with the studio has passed into the realm of common ridicule. The excesses of accessory and background, the conventions of pose and of lighting have become monotonous to the extreme and have led to an inevitable reaction. The change to simplicity and naturalness, to banishment of accessory and limitation of background, has been a change for the better but not to the perfect thing. In the nature of things no one style or fashion can be the best. Some are inherently and everlastingly bad, others are good, but fashion cannot fix on any one thing for long. To break away from what was bad was a right move, but the adoption of simplicity and a certain negative correctness was but a step.

The naturalness of at-home portraiture with the complete and handy equipment makes it as right as the old accessory period was wrong, and this branch of "photographs made at your home" is fast becoming a common line of professional work and there is no reason why it should not hold a place in the economy of the fraternity. Photographers whose work keeps them busy, particularly if they are men in large towns, are beginning to realize the profitable side and present use for at-home work; and where trade is more limited this work is as necessary a help as can be found.

Then, too, at-home portraiture has a great educational value. To a young photographer it is more than useful in its lack of monotony, its difference in each subject, leading to the necessity of a versatile mind, quick to see the best possibilities. One of the most level-headed men in the profession pushes for at-home work and turns over nine-tenths of it to his son. He is a busy man himself, and could well keep his son busy about the gallery, but he sees an educational and profitable value in the other. There are many people who are nervous on entering a studio, and some who decline to enter one. By getting *at* the sitter among familiar and comfortable surroundings we get the sitter in a happy frame of mind. And we get them in both a pose and a light which is familiar and congenial to themselves and to their friends. Exposures will be a little longer, of course. The light will usually be much less than in the studio, and the lens must be stopped down a little to do justice to the furniture.

Often a commission for at-home portraiture may be extended to one for some of the rooms. It is a good plan to carry a wide-angle lens, and after the portraiture is finished, if the room and the people seem the right kind, to take a view of the room also. Whenever possible, a visit should be made to the house before any photography is attempted, when the size of the rooms and the direction and placing of the windows can be noted. Then when the camera is taken the exact handling of the light will be understood and the photographer will appear to know his business.

Outdoor Work

Some people are forever looking out for chances; others look out only when they need one, and then usually find it; still others make the chance. One man grubs along for twenty years, just making a living, and suddenly sees that by entirely altering his methods there is a chance to make money. He has it in him to throw off his old work and strike a new vein—and he does it. We once knew a case of a man—as capable a photographer as ever lived—who starved in respectability, with a high-class trade so utterly exclusive that he had not half a dozen sitters a month. All at once he electrified his friends by announcing that he was out for cheap work. He moved his studio among people of moderate means, and while he gave them of his best when they could appreciate it, he was not above turning out what his customers liked. And he made money.

The man that can hit the right thing, and do it well, finds success. And the right thing is more often to be found than many people imagine.

The open air should be the playground of the professional photographer. From his duties in the studio and dark-room to the open fields and waste lands is a sufficient change, and restful alike for body and mind. If he has confined himself to the studio work, and got rid of "shop" when he changed his coat, let him make a new break. Try a small camera out of doors. It is wonderful how easy it is for a man straight from under the skylight to make mistakes with a hand camera. The light is so very difficult and so very variable, and so many new conditions arise.

Thoroughness

In photography, as in all things, carelessness in the details of the business leads to serious negligence in more important things. Many of these small items, which are commonly overlooked, cut a considerable figure in the year's expense account, and if carefully attended to would make no inconsiderable saving in the annual expense of running the studio. For instance, ten or fifteen cents spent in cigars or liquors seem a trifling expenditure; or it may seem scarcely worth while to earn twenty-five cents, from the

smallness of the amount involved, but footed up in the aggregate these small affairs run into large ones. Does not a wise statesman say, "Many a mickle makes a muckle;" and it is true in photography as in any other business, that "if we save our pennies the dollars will take care of themselves." So much for commercial detail.

In the technical part of photography there are so many important features that it is impossible to cover them all within the limits of a brief sketch, so we will confine ourselves to but a few special points. It is well for a photographer to become thoroughly acquainted with his subject. This will not only aid him in taking a good negative, but it will also be a great help in bringing out character when retouching. This can best be done by encouraging prospective sitters to talk, by courteously listening to their opinions and completely effacing one's own individuality. When such a one has been aroused to animation, notice any prominent feature of the face, and arrange light and camera so that this feature shall be shown.

There is no reason why a photograph should not be as faithful an indication of an individual's best points as is a good oil painting. A good photograph never flatters. A good picture is only the most favorable condition of the sitter caught by a skilful artist. This is the side of photography which requires careful experiment, but a successful result in which repays much work. By many, retouching is merely a matter of removing facial blemishes in an attempt to produce a flattering image at the expense of truth. Such an attempt is neither fair to the sitter nor compatible with that truthfulness of expression which should be the aim of every artist. After having made a negative, recall the subject and bring out those points which shall best show the character of the individual as expressed in him or her by the face.

Another important point is the study of child-nature. This forms one of the most delightful branches of photography, and is a business by itself. Cultivate the friendship of children brought to you for a sitting; put yourself on their level; play with them, getting down on all-fours, if necessary. In this way you win their confidence, and having thus rendered them docile and tractable, the obtaining of a good negative is an easy matted. Child-study is a matter of deep interest to the psychologist and the teacher, as it should be to the true artistic photographer.

We might dwell on this point much longer, but we trust that we have sufficiently emphasized the importance of this branch of the business. When photographers realize that their aim should be something more than a mere attempt to gain a flattering likeness they will have done much toward placing photography in its true sphere as a force in educating mankind. Then the photographer will be something more than a mere mechanic, and then he will take his place among that body who are aiming to help man to attain his true sphere—a homogeneous unit in a harmonious whole. For no true artist can work selfishly; all work embodying thought and loving care reacts on all with whom it comes in touch.

NOTES AND NEWS

Warm Weather

To some photographers, summer means to get down later, go home early, to give away to that tired feeling, let business take care of itself, etc. To other photographers, it means to go after business just a little harder because it doesn't come quite so easy as it does later on. It means an extra push and an extra pull to get down earlier in the morning and stay later at night, for the reason they cannot accomplish quite so much work during the hot hours of the day. It means a bigger effort all along the line because, business is a little harder. It means to lay their plans for their fall campaign so as to make this year's Christmas business larger than last, to get their studio in shape so they can handle the business with less friction than ever before.—*Ohio Photo News.*

The Ingento Style C Rapid Printer, which has just been placed on the market by Burke & James, Inc., is a great improvement over the Style A, which it supersedes, as it embodies all the features of the discontinued model and has many added advantages. The price of the new Printer is $20.00, a very low figure, when its numerous advantages for the saving of the photographer's time and labor are considered. It is the kind of a machine which soon pays for itself and from then on yields a positive profit on the investment.

Every photographer who desires to run his studio with the greatest efficiency at the lowest cost should install this machine. It not only saves time and labor but insures a uniformity of work that will be fully appreciated by the careful worker and the more discriminating of his patrons.

HIGGINS' PHOTO MOUNTER PASTE is a good paste to stick to for it makes your prints stick to the mounts. There is no danger of its causing your prints to fade. Your dealer can supply you with Higgins' and you should specify it when you place your next order.

Do you care to know how to make money by making pictures that are used by newspapers, magazines, and illustrated books, and where you can sell such pictures? If you do, then buy Photo Miniature No. 124, which is entitled "Photographs for the Press," and which gives you the above information. Price 25 cents.

FOR architectural work, interiors, landscapes, sea views with strong sunlight reflections, Alpine photography with sun-capped mountains and dark foregrounds, exposures against the light; in fact, any subjects with severe contrasts may be photographed with the "Hydra" plate.

X-RAY MOVING PICTURES.—Moving picture views made with the X-rays are quite a novelty, and the German scientist Dessauer now succeeds in producing them by an apparatus of his make which gives such powerful X-rays that he can take six photographs a second in this way, and he works a cinematograph which shows the movements of swallowing, the throbbing of the heart, and the like. The apparatus for producing the powerful X-rays employs an improved current breaker in the primary of an induction coil which gives rapid break and enables him to secure secondary current from the coil of much higher power than usual. Using this device in connection with an X-ray tube he obtains rays which enable sharp and rapid radiographs to be taken.—*Scientific American.*

THE many advantages of the loose leaf style of books for office use are so well known that it is not necessary for us to dwell on them in announcing the new Eastman Loose Leaf Studio Register. It contains 100 leaves, ruled on both sides, in the most approved style, giving 200 pages for the recording of orders. There is also an alphabetical index, large enough to record all the names in the book, with the number of page on which the order will be found.

The order pages are ruled for a record of the date of order, name and residence of sitter, number of negative, size, style of mount, quantity ordered, when promised, proof sent, proof returned, deposit paid, balance due, date of delivery and remarks.

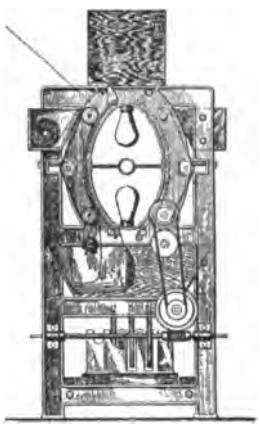
The strong board covers have a covering of pebbled cloth, with back and corners of fine grained leather.

A portion of the entire number of leaves may be quickly removed and new ones inserted, new leaves being furnished in packages of 100 with index. Besides the convenience, there is the economy of purchasing new leaves at a nominal price, and retaining the same binder for an indefinite time.

THE PRICE

Eastman Loose Leaf Studio Register..	$2.50
Extra leaves in package of 100 with index	1.25
Extra binders	1.50

ARTIFICIAL LIGHT PRINTING MACHINE.—E. J. Brogan, 23 Portland Place, Yonkers, N. Y. The improvement refers to devices for producing blue prints and the like, and the aim is to provide a machine arranged to properly superimpose the sheets of tracing paper and the



ARTIFICIAL LIGHT PRINTING MACHINE.

sensitive paper, and to cause the same to travel past a source of artificial light for making a proper exposure, and to finally separate the sheets of tracing paper and the exposed sensitive paper for removal from the machine.

IF you are interested in making better pictures and are contemplating the purchase of a high-grade anastigmat lens, ask your local dealer for a copy of the new Goerz catalog. It is a beautiful book and proves, both in the text and by illustrations, the advantages of owning one of the peerless Goerz anastigmats.

An Electric Lamp for the Dark Room, says the *Scientific American*, can be placed very conveniently beneath a transparent glass dish for use in developing plates. Photographers know the inconvenience of having constantly to remove the plate and hold it up to the light to see whether it is finished. This can be avoided by cutting out a square opening in the bench, covering it with a glass plate, then putting one of the usual pressed glass trays upon this as a support. Under the table is an electric lamp arranged to give a red light. A somewhat strong light can be used, flashing it on momentarily by a foot or knee push, or any suitable switch. The usual dark room lantern can also be retained, putting on one or the other light when need be.

Burke & James, Inc., have just been appointed agents for the now famous Caywood Flash-light Products. The Caywood Hand Flash Box looks like a dress suit case and can be carried with the same ease. There is also room in the case for a hand camera and tripod. The Caywood Hand Flash Box holds the smoke, thus eliminating the one drawback which flashlight pictures present when no bag is used. It requires but a moment to set up the outfit, the lamp being attached or detached with equal facility. It uses the Caywood Flash Cartridges,—non-electric—which are so constructed as to permit flashlights in or out of doors in any kind of weather. This outfit will prove especially attractive to press photographers and home portrait artists, because of its portability, simplicity and elimination of smoke. The lamp can be used alone as for open flashes if so desired. The Hand Flash Boxes are supplied in two sizes, the Model A measures 13 x 22 inches closed, and the Model B measures 18 x 24 closed. The latter has about twice the surface of cloth front. The prices are $10 and $12 respectively. They will soon be on sale at all photo-supply dealers.

A Novel Photographic Process.—A patent whose purpose is to provide for photographing an object with any desired background has been issued, No. 1,053,887, to Hugo Sonntag, of Erfurt, Germany. This patent includes a translucent screen slightly tinted with a non-actinic color or a color having a weak actinic action. This screen is located behind the object and the face side of the object is lighted and the sensitized plate or film is subjected to a single exposure to simultaneously impress therein the images of the object and the projecting background, the background being projected upon the translucent screen from the opposite side thereof to that occupied by the object to be photographed.—*Scientific American.*

There is nothing more finished in appearance nor complete in its construction and adaptability to home portraiture than the F. & S. Home Portrait Camera. The camera is most substantially made, selected mahogany and cherry being used throughout, the wood parts being in hard oil finish, the metal parts in polished brass. The adjustments include all those essential to a first-class studio camera, such as a double swing back operated by worm screw and sector, rising and falling front with rack and pinion and binding screw, back focus actuated by rack and pinion with V roller bearings affording easy and accurate movement in focusing, while a binding screw permits the back frame to be locked at any point.

The rectangular leather bellows is the full height of the camera at front and back, allowing the front board to be raised or lowered independently without danger of cutting off light or puckering the bellows. The vertical swing is pivoted below centre to give extreme movement to the top of swing back frame, the reversible back taking the regular Sterling Plate or Cut Film Holder. The leather handle is attached to the frame supporting the swing back, which permits of the camera being carried about the home or studio with ease. The seven-inch lens board is large enough for high speed lenses, also taking the No. O. Auto Studio Shutter, which is 7 x 7 inches outside and permits one to interchange lenses on 5½ x 5½ lens boards without disturbing the shutter.

Adapters may be had to take 6½ x 8½ or 5 x 7 Graphic Plate or Cut Film Holders.

The photographic school at Syracuse University will probably by the end of the year be housed in a home of its own, as plans are now under consideration for a special building, comprising on the ground floor a lecture room, studio, four dark rooms, plate, lens and shutter testing rooms and the usual offices. On the first floor will be built a portrait and motion-picture studio 36 x 60 feet, in which it will be possible to stage any ordinary play.

Professor E. J. Wall, who is in charge of this department, hopes to have installed in the new building a Hurter & Driffield plate testing machine, with its complement a special photometer, a complete optical bench, these instruments now being on the way. With these he hopes to make the school a reliable testing establishment for lenses, plates and papers and to put in as soon as possible also a shutter testing machine. A photomicrographic department is to be fitted up and spectrographic work is to be undertaken; the necessary equipment being all on the spot and want of room only has prevented the same being installed ere now.

The department has received many donations in the form of apparatus. Mr. George Eastman has given a complete series of Kodaks, developing tanks, etc. The Edison Company has donated projecting machines.

Mr. F. J. Marion of the Kalem Co. a motion picture camera, and printer. The Ansco Co. two of their printing machines. The Bausch & Lomb Optical Co. a complete set of lens grinding tools and a lens in the various stages of grinding from the raw glass. The C. P. Goerz American Optical Co. has loaned a fine anastigmat.

It may save many applicants trouble if it is explained that the course extends over two years and comprises the necessary art and chemical training required to fit anyone to qualify either as an expert with the camera, in the laboratory or in the studio. The demand for skilled workers is greater than the supply and already posts are open to those who graduate, not only in connection with the motion-picture but also in photographic factories. This explanation is necessary as many seem to think that photography can be learnt in two or three months; but it takes longer than this to become an expert motion-picture or studio operator.

The school was only started last January with Mr. Wall as instructor, but he has now been made Professor and the outlook for the future is more than encouraging. Such a school as this, absolutely independent of any manufacturing concern ought to take its position in the States as the final Court of Appeal in all photographic matters and it deserves the support, not only of the motion-picture men alone, but of photographic manufacturers and the trade generally, since its work will be in the interests of every branch of the photographic art.

EVERYTHING being equal the professional photographer invariably buys those materials which produce the best results—we had E. K. Tested Chemicals in mind. From price list which has just reached us, we are particularly pleased to note the large assortment of these materials listed. There is a developing agent for every conceivable want, sodas, acids, and every chemical that has a photographic use being listed all in various sized containers to fill the wants of all users. All of the photographic publications have been telling you of the merits of this line, just what they are and why you should use them. These facts we believe are sufficient arguments for you to make sure your next chemical purchases bear this mark of identification—"E. K. Tested."

MESSRS. BURKE & JAMES, Inc., announce that their No. 1A Folding Ingento Camera is now ready for the market. This camera takes pictures 2½ x 4¼ inches which is one of the most popular of all amateur sizes. The dimensions of the camera are 1¾ x 3 13/16 x 8⅜ inches. The body is constructed of aluminum covered with Levant Grain Cowhide leather. The trimmings are brass, nickel-plated and polished. The No. 1A is constructed to open in the horizontal position, an advantage which will be fully appreciated when one considers the fact that probably 80% of the amateur pictures are made in this position. The camera is practically automatic in action, as the lens support upon being drawn out clamps automatically to a self acting extension bed plate, which in turn locks automatically into the focusing device at whatever distance the latter is set. Owing to these automatic arrangements it requires but a moment to bring the camera into action. The regular equipment includes a 5 inch Rapid Rectilinear lens, speed U. S. 4.

The camera, however, is also supplied with a uniform focus Achromatic Meniscus lens with which all objects at a distance of eight feet or more are in sharp focus. The shutter supplied in both cases is an Ilex Automatic, working for time, bulb and two variable instantaneous speeds. The finder is hooded, brilliant, reversible and dust-proof. There are also two Tripod Sockets for taking either vertical or horizontal pictures.

The price of the camera fitted with Rapid Rectilinear lens is $15.00. Fitted with Achromatic Meniscus lens is $13.50. We will also supply this same camera fitted with No. 0 Compound Shutter and Voigtlander Dynar F. 6 lens at $45.00.

PHOTOGRAPHERS' ASSOCIATION OF NEW ENGLAND

FIFTEENTH ANNUAL CONVENTION, SEPTEMBER 2, 3 AND 4, 1913, BOSTON, MASS.

WHILE the 1911 convention was in progress in Bridgeport, the request was made by the National Association officials that we postpone our meeting for 1912, so that a larger attendance could be secured and more enthusiasm given to the Philadelphia convention, it being the great attraction for this section of the country.

A late vote of the P. A. of A. obliges their conventions to alternate in location each year from East to West, and the one to be held in Kansas City this year leaves the Eastern seaboard free from any counter convention attractions.

The Executive Board of the New England Association is getting into shape a program for the meeting this year, which will be very practical and instructive to a high degree.

Demonstrations and talks by men of national reputation will add to the educational features; addresses by members of the craft on everyday conditions which confront us will be of great benefit to all.

The Grand Portrait Class, *open to the world*, with a prize of a solid gold medal for the best 8 x 10 or large (one picture only, framed or not), will induce many of our leaders to compete, and the quality of the entries ought to be worthy of careful study.

We ask for exhibits in portraiture, genre, landscape, marine, autochromes, animals and pets, to make the largest exhibit ever shown at any New England convention.

The Wollensak Company are to give prizes (under their supervision) for the best work. The prizes consist of a magnificent loving cup and a verito lens, value $50, the winning prints or duplicates of the same to become the property of the Wollensak Company.

All exhibits will be passed upon by a jury (believing that this plan will tend to uplift the quality of the exhibits), and a certificate of honor will be given to those of acknowledged merit.

Lose no time in getting your intended exhibit ready, and help make this collection of portraiture, and special line of individual work an eye-opener in the Association's history.

A very large and meritorious loan collection from the studios of our leaders in America has been promised, and a careful study of such work must give the observer valuable ideas for improving his own.

The dealers and manufacturers will have their standard as well as improved appliances of special usefulness for the live worker, showing in comparison with each other the worthiness of their devices, and we bespeak for them a large share of your patronage for fall orders.

Unusual prominence will be given to demonstrations of HOME PORTRAITURE in a specially arranged room, and by men of high renown in that branch of the work, on Tuesday and Wednesday.

The entertainments given in the past to the members have always been of pleasurable interest, and the dance on Tuesday evening will be as popular as ever.

The practical demonstrations, suggestions, criticisms and advice given by "Daddy" Lively and others of national reputation will keep the New England Association in the front rank as heretofore complimented upon.

WHILE social and industrial activities in general have been successfully carried on under artificial light, the processes of photography have been the last of the applications of modern science to be included in this category. The acme of photography by artificial light was made possible by the discovery, and practical development of the mercury vapor lamp by Dr. Peter Cooper Hewitt.

Not only is this light a substitute for the rays of the sun in its effect upon the photographic chemicals, but is superior in a number of important respects. The light of the Cooper Hewitt Lamp is uniform in intensity and actinic power, whereas daylight is hardly the same two successive minutes, and never the same for two successive hours. Again, the Cooper Hewitt Lamp can be moved about at will so as to throw its light upon the subject in any manner desired. It is this advantage of portability, with the resulting adaptability of the lamp to general photographic use, to which we wish to call particular attention.

Home portraiture is unquestionably a field that will yield rich returns if properly cultivated. Rightly or not, there is nevertheless a very general feeling against the "gallery expression" of the professional photographic portrait; and there is no denying that the belief has a considerable basis for its support. Environment cannot help but influence facial appearance, and there is no doubt that the familiar home surroundings are very much more conducive to naturalness of expression, and ease and grace of posture than the unfamiliar photograph gallery, with its artificial "properties" and surroundings. Furthermore, the home furnishes the ideal background for a portrait. It is as personal and distinctive as its occupants, and the preservation of these qualities adds not a little to the value of the portrait itself.

The Cooper Hewitt Portable Outfit consists of two tubes supported in a trough-shaped reflector which diffusedly reflects the rays from one side of the tube into the opposite field. Certain electrical accessories are also provided to maintain the proper current regulation. These accessories need not necessarily be mechanically attached to the lamp and can therefore be placed at any convenient point desired; but in order to provide a complete portable light unit the lamp, reflector, and the accessories are all placed in the aluminum travelling case and mounted on a tripod. This tripod permits the lamp to be raised and lowered within a range of from four to seven feet, and to be inclined at any angle, as shown in the illustration.

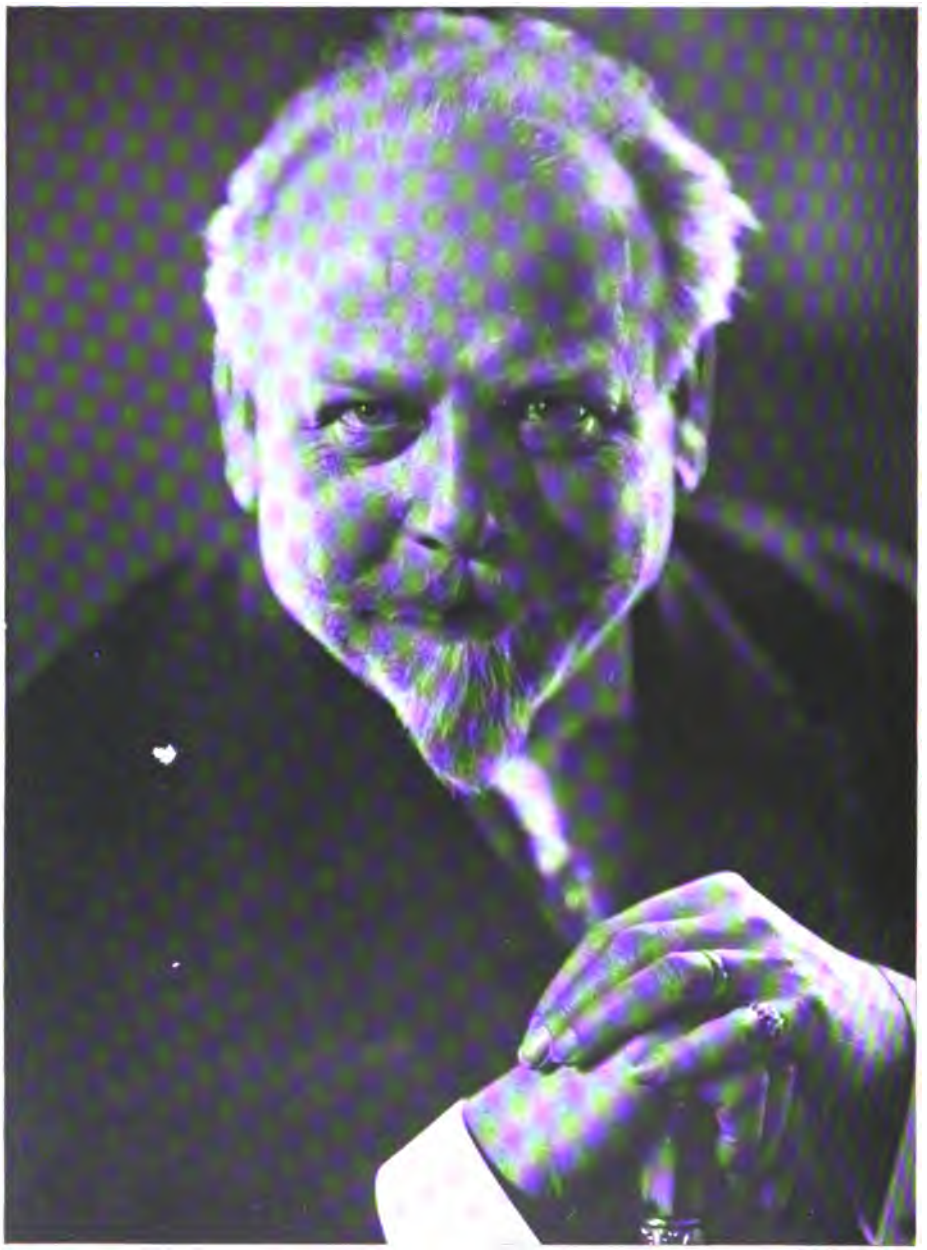
The advantages of this light-source for copying are too obvious to need further discussion. All in all, the portable Cooper Hewitt Lamp places in the hands of the photographer a convenient, cheap, and easily mastered device by which his prestige and profits can be very materially increased.

There are photographers who can tell you who is the best manufacturer of lenses, but have not the least idea how to produce a good picture with any kind, for they will never allow themselves to be taught.

Furnish your reception rooms as tastefully as you can afford, and keep them as clean and as well attended as possible.

Use the best of everything; there is nothing cheap in photography that is serviceable.

Where vulcanized rubber articles, such as developing gloves, are kept without being used for some time they are liable to dry and crack. Keeping them immersed in a weak ammonia solution is said to prevent this.



BY THE LERSKI STUDIO

MILWAUKEE WIS.

WILSON'S PHOTOGRAPHIC MAGAZINE

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PHOTOGRAPHIC LENSES: THEIR PROPERTIES AND DEFECTS

A paper read before the Professional Photographer's Congress, Great Britain

BY EDGAR CLIFTON

THE word lens is very loosely applied when used in connection with photographic objectives, what we usually call a lens being actually a combination of any number between two and twelve distinct lenses, built up with a definite object in view. The word itself is of Latin origin, and signifies the grain, or rather pulse, familiar to most of us as the lentil, which has the form of a plano-convex or double-convex lens. The French use the word lentille to denote a simple lens or burning glass, and objective to denote a photographic lens or the object glass of a telescope. Photographic lenses as a class are what is called positive or convergent lenses, and are therefore capable of projecting a real image upon a screen placed at a suitable distance. There are certain points of similarity between all lenses from the simple piece of glass which we call a spectacle eye to the eight-lens anastigmat, and it is desirable to have a clear idea of these so that the attributes common to all forms shall not be credited to any one in particular. Improvements in lenses may be said to consist rather of the removal of defects than of the creation of new powers; for example, it is quite possible to make a simple bull's-eye with an intensity of F. 1, but the amount of spherical and chromatic aberrations present prevent its being of any photographic value. One great point to be remembered is that all

lenses of the same focal length give equal sized images of the same object at the same distance; that is to say that if we have a spectacle lens, a portrait lens, a wide angle lens, and an anastigmat, and take pictures of a church from a fixed position with each, all the negative images will be exactly similar, leaving distortion out of the question; in addition it should be noted that the size of image is proportionate to the focal length, a 12-inch lens giving an image twice the size (linear) of that given by a 6-inch lens. Another point is that of depth of focus, which is the same with all lenses of equal size and aperture, any appearance of greater depth with a particular lens being due to the presence of spherical aberration, which is sometimes introduced for this special purpose. We often speak of the field of a lens, without clearly defining what we mean. Usually it is taken to mean the entire image circle, but in some cases only to mean such part of it as is clearly defined with a given aperture. The field is usually considered as a plane upon which the image is formed, but it is often more of the shape of a saucer, the concave side being towards the lens. Some of the newer lenses, however, have a slightly convex field. It is often stated that using a smaller diaphragm in a lens enables it to cover a larger field, and this has given rise to the idea that the size of the actual image circle is increased. This is, of course, quite wrong, only the area which is sharply covered being extended. As an exception to the general rule, it may be mentioned that with one type of anastigmat the field is considerably reduced by the use of a small diaphragm.

While dealing with the field of a lens, it will be convenient to touch upon the question of its illumination as affected by the width of angle of the lens and the size of the diaphragm. If, in the first place, we take a lens with a fairly small aperture—say, a Dallmeyer IAA wide angle rect.—we have the following state of things, a focal length of 4 inches and an aperture of a quarter of an inch, equal, roughly, to F. 16, at the centre of the plate, but this lens is listed to cover a plate 7 x 5 inches. Now the diagonal measurement of this is 8½ inches, and the distance from the lens to the corners of the plate is nearly 5¾ inches, so that our ¼-inch aperture on this part of the plate only represents F. 22, and as the light falls obliquely on the margins the intensity is still further reduced. With many lenses, especially those of the R.R. and portrait types which have long tubes, there is a further reduction caused by an actual eclipsing of the aperture by the tube itself, the entire circle of the diaphragm being only seen from the corners of the plate when the aperture is a very small one. It is for this reason that with two lenses of equal focal length and intensity that having glasses of larger diameter will give more even illumination with large apertures. The faults of aberrations of lenses are usually most noticeable as the edges of the field are approached, only one serious defect—if it may be so called—being commonly present in the axial rays, and that is spherical aberration. This may be described as incapacity to give a truly sharp image, and disappears on a reduction of aperture. Astigmatism, which occurs towards the margin of the field, is often confused with spherical aberration, but may easily be distinguished by the fact that (when focusing upon a subject containing horizontal and vertical lines) on throwing the image out of focus either by racking in or out, one set of lines becomes sharper and the other softer than in the position of the best general focus. If spherical aberration be present, the image will go out of focus evenly. Curvature of field and curvature of marginal lines are often confused, although they are in no wise similar. Curvature of field may exist in lenses which are perfectly rectilinear, but curvature of lines or curvilinear distortion may exist in a lens which has a perfectly flat field. It is a curious fact that some lenses will give curvilinear distortion at certain distances only. Now we come to a very important question, that of distortion said to be caused by the use of wide angle lenses. With a properly constructed lens there is no distortion, but yet the

photographs may be very offensive even to an untrained eye. If a certain wide angle is included from a certain point, and even a pin-hole used to produce a negative, the violent perspective will be present. I mention this because I have known photographers to purchase costly lenses with the expectation of getting pleasing results, only to find that the drawing was no better than that obtained with their old rectilinears. It must always be remembered that the angle of a lens is determined by the relation of its focal length to the size of plate upon which it is used, and also that there is no definite standard as to what constitutes a wide angle lens. It would be a good plan for a photographer to measure the focal length of every lens he has, and to note the largest plate which could be covered with each, and then to use them upon their merits without regard to what the makers choose to call them. This would obviate such occurrences as failing to use a 10-inch lens on a half-plate when such a focal length was desirable, because it was said to be a "wide angle" lens. It is difficult to say at what point a "wide angle" occurs. When the longest side of the plate and the focal length of the lens are equal, the angle included is 53 degrees, and this has been taken as a starting point by some makers. Others, however, call this a "mid-angle." Measurement of the equivalent focal length is a simple matter, and may be done in many ways. I have always preferred to do it by direct comparison of the image given by the lens with one produced by a pin-hole placed at a known carefully measured distance from the plate. For most purposes the rough and ready way of focusing an object in actual size and dividing the distance between screen and object by four is sufficiently accurate.

Let us now suppose that we have come into possession of a lens of which we know nothing, how are we to find out its capabilities and its qualities, either good or bad?

The first thing to be done is to ascertain its focal length, which may be done by either of the methods which I have described. This will give some idea of the size of plate upon which it is to be used, the size of the lens itself is little indication, a quarter-plate Euryscope being as large as a 12 x 10 portable symmetrical. The next step is to find out the largest working aperture and the ratio of the other stops to it. This is easily done by means of the pin-hole method, actual measurement of the stops not being sufficiently accurate.

We now come to the question of definition, and our first test must be for spherical aberration. If we focus a small flame, such as that of a candle or bicycle lamp, and cannot get a sharp image without any trace of a halo, we may assume that spherical aberration is present, and this may be proved by focusing first with a stop of about half the diameter of the lens, and then removing the stop and substituting one made of clear gelatine with a black disc in the centre the size of the stop previously used. If the image does not remain sharp it is due to spherical aberration, and the amount may be shown by the distance it is necessary to move the screen to get a sharp image.

Curvature of field is best measured by focusing a distant object and noting the difference in extension required to bring the centre and margins into focus successively. If it be found impossible to secure a sharp image at the edges, then astigmatism is present. This is best detected by focusing a cross made of, say, two 3-inch lengths of lantern-slide binding, letting the image come near the margin of the screen. If it be impossible to get both members of the cross equally sharp, astigmatism is present. It is usually most noticeable in portrait lenses, but sometimes found in reputed anastigmats. Engraving the mount does not cure astigmatism. The best test object for curvilinear distortion is a plumb line placed at the distance at which the lens is to be mostly used. There are lenses which will distort when used for copying, and will not do so with an interior; while in other cases the conditions are reversed. In double lenses such a tendency may sometimes be cured by an alteration in the position of the diaphragm, but with single lenses it is incurable. It may be

reduced by increasing the distance between lens and diaphragm. Many lenses find their way on to the second-hand market through being afflicted with chromatic aberration, and among them I have found some of the best modern make. The simplest test for this is to stretch a sheet of newspaper on a perfectly flat board, and to set it up at an angle to the lens. A small portion of type in the middle should be marked, and this carefully focused and a plate exposed. If the marked portion is the sharpest on the plate, the chromatic correction is good; if any other part is sharper, the lens is either over- or under-corrected.

THE RECEPTION ROOM

BY A RECEPTIONIST

Not all photographers recognize the necessity of a well experienced reception room lady. I mean one who knows the game from A to Z, not picked up at random and knows only the price per dozen of the pictures she is to sell.

Mr. ——— had gone and I had full charge of his studio; a photographer from an adjoining town had called; he was one of the best in his location, and had gained considerable reputation; I often heard of this gentleman and was glad of the opportunity of meeting him. We talked about the work in general, and I showed him some of the samples of the work we were doing. He complimented Mr. ——— on his carbon prints and ended with the remark:

"I wish I had some one in my reception room who could sell carbons. I have a nice little girl with me but she is timid and doesn't seem to 'get next' to the people."

Ten chances to one he was paying his "nice-little-girl" twelve dollars a week and expected her to sell the orders and have the experience of a woman worth thirty-five.

Now, it is quite possible to make a fine reception lady out of your "nice-little-girl," but don't start her in the reception room, take her to the work room and put her "over the irons," so she will know in what way the pictures she is to sell are made.

I had never sold carbons until I began to work for Mr. ———, and he made me sell them for him, although, I do not think he ever knew he did, as he always seemed surprised to see the carbon orders rolling in.

It was like this: I had had several years experience before I began working for Mr. ———, but I knew nothing about carbons and told him, so he immediately took me to the carbon-room and explained exactly how they were made, and told me so many things about them that "sounds well,"—but—, excuse me, which I knew was deviating a little from the truth; however, the talk appealed to me as it was a line out of the ordinary and I was anxious to try it on my next "victim," which I did with "howling victory." It was a good flow of "gab" and it pleased me to see how easy it was to convince the people, as I would have been convinced by Mr. ——— had I not known something about the business,—and photographers. Well, I've been selling carbons ever since with the most satisfactory success. I say success because I make a good delivery, and my customer goes away well convinced that all I told him was the truth, and unless some other photographer "puts him wise" he will never know the difference; but I doubt even then, if he will believe the "photo-man" for the first effort I make is to so utterly gain the confidence of my customer that they will

believe me in preference to the other fellow and be pleased to do so.

Listen,—there is more confidence gained in a smile and a soulful expression than a whole dictionary full of words —TRY IT—I don't purpose a silly grin with no meaning, but,

"A smile that bubbles from the heart,
That loves its fellow men,"

nor do I intend to signify that you do not have to use words, but give them the greeting smile first with the few necessary remarks ending in a question so they will have a way opened for them to talk, and nine chances out of ten before they have finished telling you what they want, you have used an X-ray on their pocketbook and know how much you can "stick" them for.

Don't frighten them with the first price, begin gradually, coax them along a few dollars at a time until you have reached "the limit," then send them away feeling as if they had received full value for their money, and they'll come back next year and bring their friends.

HYPO-ALUM TONING

BY W. L. F. WASTELL, F.R.P.S.

Every professional photographer must have available, when required, a reliable method of changing to a brown tone the development black of his bromide prints and post cards. Of the many means of accomplishing this there is probably none so reliable and satisfactory as the hypo-alum process.

A stock solution is made up by first dissolving a pound of hyposulphite of soda in half a gallon of hot water, and then adding three ounces of ordinary powdered alum. The milky solution thus formed must not be filtered. It, however, needs ripening before use, as in its new condition it has a reducing action upon prints. A few small crystals of silver nitrate added to it will have the desired effect, but a good plan is to place in it some waste silver or bromide prints, and heat up to a temperature of 120 to 180 degrees Fahrenheit.

The bath works better with use; consequently solution that has been used for toning should not be thrown away, but stored in a separate bottle and refreshed from time to time with small quantities of unused stock.

If used cold the bath will certainly tone prints, but the process is extremely slow and may run into a couple of days or more. Therefore, in practice, heat is used to expedite the action.

There are two methods of procedure. In either case the bromide prints are made in the usual way, and fixed. It is better to use amidol or one of its substitutes as the developer, rather than metol-hydroquinone or the latter salt alone. There is no need, of course, to wash the prints after fixing, as they are to remain till toned in a solution containing hypo. Some of the toning solution is placed in an enameled iron dish sufficiently large to take the prints. This is in turn placed over a water bath or tank, with a gas ring or other arrangement for heating the water so that the temperature of the toning solution can be gradually raised.

In the first method the prints are placed in the toning solution while it is at normal temperature, the gas is lighted, and the temperature raised to 100 or 120 degrees Fahrenheit. While this is taking place the alum in the solution is exercising a hardening action on the prints which are thus enabled to stand the final temperature without blistering.

In the second method the prints are

immersed in the already heated solution, in which case toning is complete in about ten minutes. But for this procedure it is necessary to harden the prints first. While the bath is heating the fixed prints are rinsed, and then placed for about ten minutes in a saturated solution of common alum, or in the usual hardening bath of formalin. After this treatment they may be transferred without risk to the warm toning bath.

The tones obtained by this method vary according to the time of immersion and the temperature to which the bath is raised. It is well to note the complete range of tones through which a print can be carried by prolonged treatment. There is no double toning, and the permanence of the results may be relied upon.

When the desired tone has been obtained the bath is allowed to cool down to normal temperature, and the prints are then very thoroughly washed. As usual the tone of the print is slightly colder when dry.

AN ALL THE YEAR 'ROUND BUSINESS

A DEMAND during every month in the year for the products of your studio is what will give you a good profit and a surplus at the end of the year. A photographer should vary his work to the extent of having specials for each season of the year. Now don't misunderstand us, we don't mean to advertise special prices or special sizes, but the thing to do is to use your show case and your usual ways of advertising; that is, to show something different often enough to keep the demand for photographs alive among your patrons. If you are not selling photographs all the year 'round, you are deliberately throwing away a good line of profit which you might just as well have. The demand for photographs is a natural growth of condition. It is different from almost everything else. Children want them and the parents want the children to have them. Almost everything else the child wants, the parents get to please the child. The year 'round business making photographs should be your motto.

Treat your line just the same as the grocer treats his. In the winter he is pushing canned goods and in the summer fresh vegetatbles, but he is doing business all the time. Look ahead. If business is good now, plan for a good business three months from now. Business does not come in a minute or a week. We are buying goods for the Christmas holiday trade NOW. We are getting out our advertising for Christmas, NOW. We are looking up photographic cards for you to sell your Christmas trade, NOW. If we wait until next fall we couldn't supply you. In October you want to begin to plan for your January business and in January for the Easter trade. Of course there will be some large weeks and some small weeks during the year, but if you get at it in the right way and keep pushing all the time you are sure to have a first class business twelve months in the year.

The grind never ceases. Before one season's business closes another and greater effort must be well under way for the next season's business. In other words, the new task must tread on the heels of the old. You must see your stock is ready for your business so when the business comes you can take care of it. Buying must be done in advance, but it should be done wisely so as to make sure of your future sales. Do your buying early. Select the goods which will enable you to manufacture the most

artistic photographs, for after all a photograph gallery is only a small manufacturing plant, nothing more and nothing less. Every manufacturer buys his material, manufactures the article desired and places it on the market. You should do the same thing. Every grocer knows just what proportion of each article to buy to satisfy the demands of his customer. The photographer should do the same. In other words he should know his trade so well that he could buy the material and manufacture the goods which will satisfy his customers and help to increase his trade. He should be booking business from January to January. He should order his goods at least thirty to sixty days ahead so as to have them when needed. It is a great deal easier to do business all the time for twelve months and you can make more money than if you try to do a large business in a short time at the close of the year.—*Ohio Photo News.*

THE NATIONAL CONVENTION OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA KANSAS CITY, MO.

SECOND REPORT

The thirty-third Annual Convention of the Photographers' Association of America was held at Kansas City, Mo., from July 21st to 26th, inclusive, under the presidency of Mr. Charles F. Townsend.

In a previous notice, last month, we stated briefly the principal items of this very successful Convention. As the full detailed report of the proceedings are to be printed and issued shortly in the "Association Record," we do not deem it necessary to give a verbatim account here.

Monday, the 21st inst., was devoted to final preparation of exhibits in the large and ample hall, arranging for display spaces, etc., and the official opening took place in the afternoon, when the President delivered his address. The evening was devoted to a reception to the officers and a dance at the Hotel Baltimore.

Following is the list of the officers newly elected:

President, Manly W. Tyree, Raleigh, N. C.; 1st Vice-President, Will H. Towles, Washington, D. C.; 2nd Vice-President, Homer F. Harden, Wichita, Kansas; Treasurer, L. A. Dozer, Bucyrus, Ohio; Secretary (to be selected).

Woman's Federation: President, Pearl Grace Loehr, New York City; 1st Vice-President, Clara Louise Hagins, Chicago; 2nd Vice-President, Maybelle Goodlander, Muncie, Ind.; Secretary-Treasurer, Sara F. T. Price, Mt. Airy, Philadelphia.

Commercial Federation: President, R. W. Johnston, Pittsburgh, Pa.; Vice-President, Charles D. Kaufman, Chicago; Secretary, E. S. Caywood, Philadelphia; Treasurer, S. W. Cole, Danville, Va.

While much effort was made to have only a three-man Executive Board, the majority ruled, and a four-man Board, with a paid secretary at a salary of $2,000 a year was finally decided upon. The selection of this secretary was left to a committee composed of past presidents, G. W. Harris, Ben Larrimer, Charles F. Townsend.

As has been previously noted, the picture exhibit was not up to the standard, and we believe the following comments, by no less an authority than Mr. G. Hanmer Croughton, will be of interest:

"Frankly speaking, I do not think the exhibit is as good in one way as it was at Philadelphia last year. There is to

WILSON'S AT THE NATIONAL CONVENTION

me an appearance of a transitory state in the work. It seems to me that you have been trying to do some extraordinary good work, you were trying for something, but you did not understand just exactly what you wanted. It puts me in mind of an American friend who came to London. He put it in this way: he said, "If a man goes out and seeks for he knows not what, he will surely come home without it." And that I think I see in these exhibits this year.

There is an unfortunate use of the reducer. The reducer has been used by those who do not understand what they want to do, or not being able to control it. It seems to me it is from want of control.

Now you will find in those three pictures that are hung in one frame—the three pictures where the half of the picture is entirely lost—there is no indication of carrying the lines of the figure and show what the figure is. I think it is due to the overflowing of the reducer in its use. I regret to say that the reducer is a very misused tool. It should be used by only those who know what they want to get.

One of the faults that artists find, as a rule, is exaggeration. I remember in an exhibition some years ago when Professor Granfield had been insisting so much on concentration. In one picture there was nothing there but the one-half of the face. The other half of the face was lost in the background, and I spoke to the producer about the picture. He says, "Well, that is concentration." I said, "Yes, so is a black spot in the middle of a white card, but that does not make a picture."

The free touching is overdone in this exhibit. It is not flesh. One well-known man has three pictures here and instead of it seeming to be like the flesh, it is like polished stone. I think there is nothing more beautiful than the repro-

duction of the flesh, but nothing should be done by the photographer except to correct a fault in the reproduction of the color of the flesh.

But I think the greatest fault that an artist would find in this exhibit is the misuse of the background. There is no background that is necessary to have half a dozen trees or a whole forest back of it. All the background is for is to support the figure. Your light should be reproduced in the background to some degree. You have to carry out the general scheme in the background. When I see a square window up in the corner that is lighter than anything in the picture, that would condemn it for me.

As I said, I think we are in a transitory state. We are trying to do something better and don't exactly know what we want to do, and that is because we don't have the artistic nature. If you go out to find you know not what, you will surely come home without it.

The judges of the pictures exhibited were Joseph Knaffl, G. Hanmer Croughton and H. E. Voiland. Thirteen pictures were selected to be published in the *Association Record*. These were by Bessie L. Meiser, Richmond, Ind.; A. F. Bradley, New York; Belle Johnson, Monroe City, Mo.; Gerhard Sisters, St. Louis; the Kid Studio, Roanoke, Va.; B. J. Falk, New York; Ryland W. Phillips, Philadelphia; S. H. Lifshey, Brooklyn; Bell's Studio, Pensacola, Fla.; Sara F. T. Price, Mt. Airy, Philadelphia; Helmar Lerski, Milwaukee; Mrs. Ethel Standiford, Louisville, Ky., and the Camp Art Company, Jamestown, N. Y.

The Working Studio proved to be a big success, and was of the greatest possible value to those fortunate enough to be present, and at every session there was a large and enthusiastic audience. The department was under the able direction of "Daddy" Lively. He was assisted by the following, who demonstrated various methods of working behind the lens:

Charles Wallinger, Chicago; Helmar Lerski, Milwaukee, Wis.; Belle Johnson, Monroe City, Mo.; C. R. Reeves, Anderson, Ind.; Emma Gerhardt, St. Louis, Mo.; E. Goldensky, Philadelphia; Henry P. Dexheimer, Marion, Ind.; E. E. Doty, Battle Creek, Mich., and "Papa" Cramer.

We might add that artificial lights were exclusively used—gaslight, flashlight and electricity.

The manufacturers' exhibit was one of the largest ever given, and many new and interesting inventions were, for the first time, displayed, and these features alone were well worth a visit to the Convention.

On Wednesday Miss Reimeke entertained the ladies at her studio, with a breakfast and musicale, and in other ways did much to add to the general success.

After a somewhat heated discussion, Atlanta, Georgia, was selected for the Convention in 1914, by a vote of 168 to 93, over Cedar Point, Ohio.

Much credit must be accorded to the Kansas City Photographic Association, who were so liberal in providing entertainment.

It is far more difficult to be simple than to be complicated; far more difficult to sacrifice skill and cease exertion in the proper place, than to expend both indiscriminately. We shall find, in the course of our investigation, that beauty and difficulty go together; and that they are only mean and paltry difficulties which it is wrong or contemptible to wrestle with. Be it remembered then—power is never wasted. Whatever power has been employed, produces excellence in proportion to its own dignity and exertion; and the faculty of perceiving this exertion, and appreciating this dignity, is the faculty of perceiving excellence.

Ruskin.

PROFITABLE SIDE-LINES FOR THE PROFESSIONAL PHOTOGRAPHER

IV. THE POSSIBILITIES OF THE FACTORY

BY A. E. SWOYER

THE photographer who is located in one of the so-called "factory" or manufacturing towns is very apt to bemoan his fate; perhaps to seek for opportunities elsewhere instead of developing those within his reach. It is true, of course, that such towns are rarely scenically beautiful, and that the patrons apparently within easiest reach of the studio are not of the sort to appreciate, say, the beauty and cost of the platinum process; yet, granted the will, there is always a way that even in an apparently unfavorable situation will produce tangible results.

Then, too, things are never (or rarely) as bad as they seem, and this is particularly true of the manufacturing centres. Such towns may not have the flashy trade of the resorts—a trade which flourishes during the season and drops to near-nothing the remaining three-quarters of the year—nor the high class business of the fashionable suburb; but, then, neither do they have the excessive rents and the fluctuating business of the latter, nor do they demand either the same excellence of equipment nor the perfection of technical skill.

There is, of course, a modicum of wealthy trade; where there are factories, there are also owners, superintendents and managers—we may take it for granted that the photographer has already corraled this, since it is a mark at which all may shoot. But a manufacturing centre means more than this; it implies a steady year-'round business, from a class of people far from niggardly, and whose gross profits may surpass the quick returns from clienteles apparently far more prosperous. It is simply the old equation of a smaller profit on a larger volume of business being equal to a high percentage on a lesser amount.

It may be taken for granted that the alert practitioner has taken advantage of these conditions, is turning out a class of work to suit the tastes of his customers, and—by eliminating high grade retouchers and receptionists, cutting down on costly fittings and equipment and in other economies—is doing so at a satisfactory profit. We may assume, too, that he is considering the various side-lines as brought out in this series and in other writings, discarding those ideas patently unavailable in his location and adapting others to the conditions which he has to meet; to such a man the articles on advertising, press work, and others to follow may appeal.

There is, however, a field within the factories themselves; a field often overlooked and sometimes disregarded because one "has to go after it." There are, rather, two distinct territories—one to be reached through the employees, the other through the factory management; the latter partakes more of commercial photography. The former, unfortunately, is often sneered at because the professional feels that in securing photographs of factory hands, either individually or in groups, he is coming down to the level of the "pictures while you wait" man on the corner.

To my mind, at least, this feeling lacks logic; what photographer is averse to the flash-light picture of a banquet of notables, or to the class pictures of high-school graduates with their stiff collars and diplomas? If such a man objects to

soliciting the opportunity to photograph the working force of a factory, his reason must be a snobbish one, brought about by the difference between shirt sleeves and a dress suit. At any rate, any honest way of earning a living is commendable; if the factory group means dollars to you, by all means go to it!

For this class of picture it is advisable to secure the permission of the superintendent or owner; in nine cases out of ten he will be glad to accord it. If he hesitates, make it plain that your work will not interfere in any way with his business, and drop a few hints about encouraging a feeling of fellowship among the workmen, the pride of association, and so on. Permission secured—if possible, go a step further and have an announcement made that a photograph will be taken at a noon hour a day or so ahead—erect your camera and focus it upon the steps of the factory, or whatever other location you have selected, before the workmen are expected to appear. Then, even if the announcement has not been made, you will have no difficulty in getting the men to stop long enough for grouping and exposure.

The results, financially, from this exposure will depend largely upon your personality—but more still upon your reasoning powers. Thus, if possible, make the exposure so that you can get around with the proofs on pay-day; your subjects, with money in their pockets, will be far more liberal with their orders than, say, the last of the week! If you are tactful and can do so without offense, ask for a substantial deposit or for payment in full when the order is given; this is the safer way, as otherwise when the exuberance of the occasion has passed away or when family influence against such "extravagance" has been brought to bear, you will find a number of cancellations.

If your modesty forbids such a course, take the orders anyway—and take them as publicly as possible, for there will always be a number of conservatives who would never in this world give an order if you backed them off into a corner by themselves, but who will "come across" like Broadway Jones in public, for fear that their fellows will think them niggardly. Ther's another side to this, too, because an order so given stands a smaller chance of being cancelled should payment in advance not have been obtained. The orders secured should not be delivered until the following pay-day; you will have always a few names whose owners were free with their order but "Didn't have the money" at the time, and with these fellows you want all possible odds on your side. To this end, while you may hand over the "paid in advance" goods in any manner that suits your convenience, be sure that there is a crowd around when you deal with the delinquents; pride, working in the manner outlined above, still get money from men whose original intention was either to decline the goods or to "dead-head" through.

All of this sounds pretty sordid, I know—but you are, or should be, dealing with a relatively small profit on each print and are forced to protect yourself. In fixing your prices, remember that you are not dealing with wealthy customers; moreover, you are making a large number of prints from one or two negatives and are therefore working under slight expense, either of time or of money. The writer has found that a charge of twenty-five cents each for 5 x 7 prints (a good size, by the way, and a price that ought to get your orders from ninety per cent. of the group) or fifty cents each for 8 x 10's—in each case mounted, of course—showed a mighty good profit. Incidentally, if you are affable and agreeable with the men and are neither over-superior nor too familiar, you will find this sort of work mighty good advertising for your studio.

So much for the "hands"; now for the more dignified (perhaps) work for "the powers that be." Here your capacity as a salesman will be brought into play, for you've got to convince Mr. Factory Owner or Mr. Superintendent that he can use cuts of the building and of the different machinery and processes in his advertising; not so difficult as it sounds and sometimes far easier than proving to

him that you're the only proper, logical and available candidate for the job. If you have the advertising "bump," suggest schemes of your own whereby such cuts might be used to advantage; if you lack this, fall back on the stereotyped practices of using such upon letterheads, blotters, catalogues, etc. Incidentally, if the firm already issues a catalogue, study it—and if possible suggest improvements; this is clean, well-paying work whose possibilities will be further brought out in a later article. If all else fails, tell him that you want the photographs for use in a trade paper—you can make your statement good, as explained in a later paragraph—and he will reverse his attitude and do all in his power to aid you.

Supposing that you have secured permission, go ahead—and don't be stingy with your plates, for to your client the business is not only bread and butter, but wife and child, as well. By this I don't mean to fire away hap-hazard, taking subjects that overlap each other and miscellaneous views that have no meaning; but get a good panoramic view of the plant, if possible, and separate views of the most important buildings—make love to the foreman, get him to show you what is new in machinery or processes, and regulate your exposures accordingly. Incidentally, if you make negatives in drafting room, shop or office, include the occupants, if your permission is such that you can hold them quiet for a long enough period, and before you leave the room you will have individual orders from nine-tenths of them. Such is human vanity, the photographer's reason for existence!

Perhaps little need be said about the conditions that you will meet, but be prepared for work in dark machine shops, against the light, and in every difficult situation conceivable. Non-halation plates are a necessity, "Hydra's" a joy—unless you expose for from four to eight times normal and work with a special development involving treatment in a developer free from soda at the start and adding thin ingredient as you progress. On your own technique you must either fail or make good.

In an earlier paragraph it was hinted that you could easily place photographs of this character with the various journals devoted to the particular trade with which you are dealing; this is true, if your negatives are good, if the subjects are novel or if the manufactory is an important one. Such "trade journals" pay from one dollar to five dollars each for such prints as they can use, and you will have no difficulty whatever in getting the permission of the mill or factory owner to grant you permission to offer them—it's good advertising, and he knows it. As the first point is to learn the addresses of such magazines as would be interested in any particular line, it may be pardoned if I state that a volume of *The Photo Miniature* treats both markets and methods at length. In any case, it may do no harm to state that prints intended for such use should be made on glossy paper, ferrotyped—but that, unless they tell a story or show something new, they might better not be sent.

Lack of space compels the omission of much that might be said, but even with the few points herein suggested it will be your own fault if you do not find every factory in your vicinity a small gold mine, and every mill a miniature mint.

SOME HINTS

THE following hints were published in a German contemporary several years ago. They may be useful to our younger photographers:

The photographic art must sever the bands of the rigid expression of the sitter.

The way to do this is to study the art and its possibilities.

The pose should always be a restful

one—*i. e.,* the position can only be a natural one, provided it is comfortable.

The lighting arrangements should allow of modification so as to permit every part of the subject to receive proper light values; our pictures now suffer from a too general lighting.

It should be the aim of every operator, in subjects with a smooth background, to obtain transparent shadows similar to the effect gained by translucent varnish on an oil painting.

The most natural disposition of the hands is obtained when the hands are employed.

The great essential for a portrait is character.

The operator should employ every leisure moment in experimental exposures, wherein the pose, lighting, time, and development are thoroughly studied, and the comparative relations of the various processes to each other carefully noted.

To remove the impression of stiffness in a picture the disposition of the hands must not be symmetrical.

The general public must gradually be led to prefer, in portraits, character to flattery, and natural surface to the smooth, expressionless specimens of the retoucher's art.

The operator must spend more time with his client, so that he can the better study his model and his expression.

There are practical methods whereby single parts of a head or picture can be brought out more prominently by extra sharpness, whereby the attention of the spectator is directed upon that especial feature, thus making all other parts subjective to the salient feature. Photography in this respect has far greater difficulties to surmount than the painter's art.

It is absolutely necessary that the operator encourage an animated conversation with his model, so as to lead him above the feeling of "being photographed;" thereby only can a pleasing and intelligent expression be obtained.

THE PHOTO-ENGRAVER AT WORK

How halftones and line plates are made has been told many times, but probably never have the several departments of a photoengraving plant been so well illustrated as in the halftones here presented by courtesy of *The American Printer.* The views were taken in the plant of the Baker Brothers Engraving Company, Omaha, Neb., and are reductions from larger ones that appeared in a booklet recently issued, bearing the title "Impressions."

The first view, that of the art department, shows where designs are drawn, photographs retouched and copy given such attention as is necessary in the engraving of fine plates. In the second view is seen the photographic department, where copy is photographed by the aid of strong electric lights. Here copy of every conceivable kind and size is reduced for use in catalogs and magazines.

The third picture presents a peculiar kind of work connected with the making of halftones—stripping of negatives—removing the film from light glass and attaching it to heavy plate glass. The image is printed by means of a strong light. The sensitized metal is placed in contact with the glass negative and the light, penetrating the glass, affects the metal.

When developed the copper plate is ready for the etcher. This plate is then flat etched, which is the first stage of the etching. The illustration shows a flat-edged plate with six pictures upon it. After the first etching the different pictures are separated and etched individually. Each one is re-etched to bring out

the high-lights and effective printing qualities.

In the tooling and finishing department of the photo-engraving shop the plates are inspected for quality, re-etched if necessary, outlined and hand-tooled, as the order may require. This is but one of the many handlings that a halftone has in its making.

To make color plates the photo-engraver must have special knowledge of color values. Color reproduction in order to be commercially profitable must be accurate, and it is something of a problem to make three or four plates which when superimposed in the printing will produce the proper colors. Special apparatus is used for this work.

The last picture of the series shows the gallery in which commercial illustrative work is done. Manufactured articles of a large size are there photographed. It will be noticed that the room has direct freight elevator service.

The halftone plates here used are excellent examples of engraving and are shown through the courtesy of Baker Brothers Engraving Company.

THE CRAVING FOR BUSINESS

It is one thing to get orders, another thing to execute them satisfactorily, and a totally different matter to make a profit on them. These things must be separate and distinct departments of any well-organized business entrusted to men who have special gifts in each of these directions. It would be absurd to expect a traveller to superintend the execution of his orders and be responsible for bringing them out at a profit. At any rate, it would very soon dull all his abilities for gettting orders. Equally foolish would it be to expect a man who may have splendid gifts for organization indoors, to go out with any chance of success outdoors in search of orders. Again, how futile it would be to suppose that a cashier or an estimating clerk would make any success as a canvasser, or even as the manager of any of the executive departments of a warehouse or factory. With his mind full of niceties of figures, he would lose the chance of getting an order while he was weighing the chance of making a profit, and his soul would rebel against the idea of suffering a loss in order to make a gain in some other direction.

There are occasions in commercial life when those who run a business must stand by with equanimity and see a serious loss going on which cannot be checked, except to the injury and future detriment of the concern. This can only be tolerated in the case of a man of strong character and with the reputation of past achievements, not simply the dreamer who imagines he can go on losing money indefinitely to realize imaginative future profits. The man who knows his own strength can bear a loss with an easy spirit, bearing in mind the counsel: "Whatsoever thou taketh in hand, remember the end, and thou shalt never do amiss."

It is a true and invariable law of nature, which we find exemplified throughout the whole circle of sciences, as well as on every side of our social life, that there never can be a gain without some contingent loss. In chemistry we ask for more potency of chemical action, and when we get it we find the gain is almost neutralized by some complicated reaction. In mechanics we ask for more speed, but to attain it we lose in power and in directness of action. In electricity we ask for more intensity, and what we gain in some directions we lose in efficiency in others. And so it is in business, the study of loss is equally as important as the gain; even so is it in our individual life that the attainment of wealth and influence is not without its disadvantages. Happiness does not alone lie in the pos-

session of wealth, and many a man who has gathered in the fruit of his life labor has found it to be only as sour apples. The only true happiness is the absence of everything that tends to make a man unhappy, and money will not purchase that immunity. It will not ease the troubled conscience, nor allay bodily pain, nor bring sleep to the restless. "Can gold calm passion, or make reason thine? Can we dig peace or wisdom from the mine?"

The craving for business is in some men as the insatiable desire for wealth. They cannot bear to lose an order, however unprofitable, and thus the gain of the order is too often a minus quantity. The man who craves for orders at any price is not far removed from the miser craving for gold. Nothing can be said against pushful determination to get orders, but the man who carries it to the extreme must either rob himself or his firm of the due rewards of business, or must resort to deception and intrigue in order to make up his profits. It no doubt requires a firm will to let an order go by, but the man who can do it will be the gainer in the long run, not only in pocket, but probably also in self-respect.

It also requires a sound judgment to determine when to forego an order which is just on the border-land between profit and loss, and the experience which will enable one to determine this can only be obtained by a thorough grasp of detail and sound knowledge of the subject. In giving estimates nothing should be left to guesswork, but should be based on careful calculation. Then, if it comes to competitive bargaining, you know where you are and how far you can go. When labor and material are in question, it is only the firm which has its men thoroughly in hand, and knowing their capabilities and their economy of working, that can hope to compete. When it is a question of the sale of a commodity for which there is a market price, it is the firm whose financial resources and business system are the best that is likely to get the order. It amounts to this, then, the better organized a business is the better it is able to compete, and when it comes to estimating against a firm of equal standing, the chances of getting orders are fairly equal. When you are pitted against the reckless estimator, it is better to be without the work than to try and get it at a price which figures at a loss on your estimate.

Of course, if there is certain work which is speculative and doubtful, it is open to consideration whether to take on the job on chance of being able to make a better profit than anticipated. Circumstances will largely influence this; it may even pay to lose, as we have already pointed out, in order to secure a gain in some other way. But it is senseless and suicidal to accept orders at any price for no other reason than that you are told your competitor is lower.

What is the use of toiling and worrying merely to get orders? ***Businesses exist for making a profit, not for making a show.*** You don't work for fun or to please nice customers. Your business has got to bring in sufficient money to prevent you from feeling the want of that commodity—just sufficient to make you feel sure of your position and to place you above those small schemes and struggling in which the mass of the people have to pass their existence. Sufficient for the present and enough for the rainy day should be the sum of human happiness. When you have got that you can rest on your oars and glide idly down the stream of life, leaving others to go on struggling among the rocks and rapids.

How often do we see men doing apparently a big business, yet making nothing for themselves, slaving on year after year to make a bigger turnover, yet never gaining an additional farthing toward their own personal comfort, chained to their task, and doomed, like Sisyphus, to "everlasting hope," always rolling the stone uphill, yet never reaching the top!

YOUR FRIEND THE EDITOR

BY CHARLES F. OURSLER

PHOTOGRAPHERS who really amount to something in a community; whose names are bywords for good portraiture; to whom come the city's elite, achieve this success, of course, through various means. They are good craftsmen, surely, else their position, once attained, could not be held, but then there are many good photographers whose heels are down and whose trouser knees are baggy.

Whether the co-operative plan of business building to be outlined here has any responsibility for this condition would be hard to say. That the plan has made wealthy an humble staff photographer on a Baltimore newspaper, however, I am certain. And no good reason presents itself to me why this plan could not be followed out by all photographers.

There came a time when the art staff of this Baltimore daily became too large, and the young man I have in mind was gently asked to leave. His only assets when he bade his boss farewell were an expensive camera, a few shekels and *carte blanche* on the bank of nerve. With these to build a fortune on, he sought out friends who were induced by his arguments to provide the wherewithal for the establishment of a photo studio. Within a week his shingle was out.

He did not wait for business, however. Instead, his first task on the morning he opened his shop, was to call on the city editor of every newspaper in town. With him he carried a supply of cards, on which were printed:

M.....

.....

At our expense and at no cost to you, Messrs. ..... photographers, will make of you some negatives suitable for reproduction.

We want a good picture of you, in our files, ready for publication.

Thanking you in advance for this privilege and the few moments of your time, we are

Respectfully,

A BALTIMORE NEWSPAPER,

Per.....

Now, his proposition to the editors he stated this way:

"When you fellows want a picture of some man or woman, suddenly sprung into prominence, you often are up against it. Perhaps they haven't had pictures taken in years; perhaps they have just given the only ones they had to your rival paper. If you go to a photograph shop, they charge you anything up to two dollars, and sometimes more, for a print.

"But I have something better to offer. Send one of your reporters to see the man or woman whose picture you are after, with one of these cards filled out. Let the man or woman come down to my place, and have their pictures taken. Within a few hours, I'll have the picture on your desk, ready for the artists and engravers. My charge for the picture will be 50 cents, but beneath the picture, in plain type easily read, you must have 'Photo by' and my name there. What do you say?"

To a man, the editors answered "Yes," for it meant better results for them in every way. Yet it was the photographer who was really coming out the big end of the horn. Not only did he see his pictures in the daily press four or five times a week, with his name beneath it as the man who made the photo, but the very subjects of those pictures invariably ordered a dozen or so for their own use. And believe me, this photographer didn't let them down at 50 cents the copy.

His business expanded rapidly. The wealthy and fashionable of the town, seeing his name so frequently in the papers, sought out his modest shop; gave him a trial, and found him a very capable man. They patronized him so well that soon he moved up on one of the thoroughfares where exclusive shops flourished. To-day his name is preeminent in Baltimore as the town's best photographer. For which he has to thank his friends, the editors.

BY THE LERSKI STUDIO

MILWAUKEE, WIS.

MR. LERSKI

BY THE LERSKI STUDIO

MILWAUKEE, WIS.

BY STRAUSS-PEYTON STUDIOS

KANSAS CITY MO.

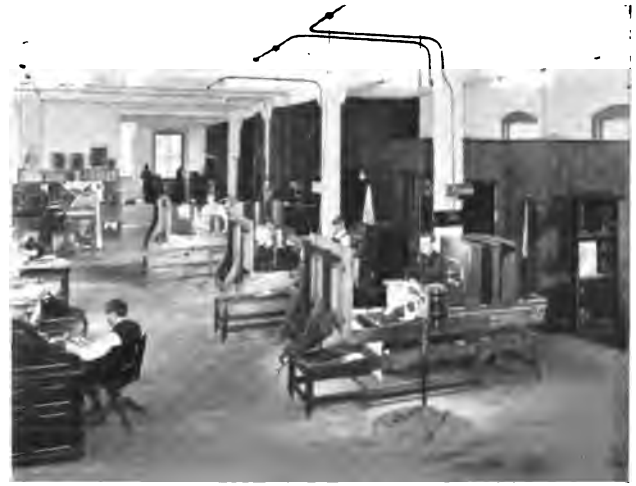
BY STRAUSS-PEYTON STUDIOS

KANSAS CITY, MO.

BY STRAUSS-PEYTON STUDIOS

KANSAS CITY, MO.

MAKING DRAWINGS AND RETOUCHING PHOTOGRAPHS



PHOTOGRAPHING THE COPY

STRIPPING AND TRANSFERRING THE FILM

PRINTING ON THE COPPER PLATE

SEE "THE PHOTO-ENGRAVER AT WORK"

PHOTOGRAPHING FOR COLOR PLATES

PHOTOGRAPHING COMMERCIAL OBJECTS

ETCHING THE COPPER PLATE

TOOLING AND FINISHING

SEE "THE PHOTO-ENGRAVER AT WORK"

THE COUNTESS PAPPENHEIM

BY LALLIE CHARLES, FRANCE

ON REMODELLING THE STUDIO

BY W. I. SCANDLIN

A GOOD many changes occur at this season of the year, not only in the proprietorship of various studios, but also in the studios themselves. Redecorating, refurnishing or at least a complete and thorough overhauling and cleaning is everywhere in order, while in many cases the entire studio is altered and rebuilt to conform more nearly to the modern conditions under which its business is being done.

The writer deems it not unwise to drop a hint regarding the importance of care in planning the changes and carrying out the alterations so that every possible advantage may result without the necessity of subsequent changes to perfect the work. The subject can, of course, only be considered in a very general way, as each case in point furnishes conditions of its own that must be worked out for itself without reference to any formulated scheme.

The changes possible in any given building depend upon so many different conditions and are so limited by local building regulations, structural considerations and cost that it often seems impracticable to undertake any change, even in studios that have long since ceased to conform to the ordinary requirements of convenience or comfort. In such cases as these, where extensive alterations cannot be undertaken, it is usually better to be content with a thorough renovation and freshening up of hangings, decorations, etc., meanwhile keeping a sharp look-out for a new location, than to expend time, energy and money upon alterations that will only alter without materially improving the conditions.

In cases where, for local reasons, it is unwise to give up the old studio, and where alterations and remodelling are possible, a great deal of careful thought and study should be devoted to a decision as to just what shall be chiefly aimed at in the reconstruction. Is the main object of the change to be the securing of increased space under the skylight and in the work-rooms, or to the enlargement of the reception- and dressing-rooms? Many a man has found to his sorrow, after expenditure of time and money, that he has gone ahead too fast and has perhaps only half realized on his investment. Great difference of opinion exists as to whether or not a large and more or less elaborately furnished reception room is on the whole better than one or two small, cosey, home-like, modestly appointed rooms. Personally, the writer strongly inclines to the latter arrangement, and for several reasons.

First, the prospective sitter, coming into the studio for perhaps the first time, is not transplanted with too great a shock into an atmosphere and surroundings unfamiliar and frequently chilling to a large majority of every-day patrons. Again, a large and sumptuous apartment suggests at once to the ordinary mind a vision of considerable outlay for which the patrons of the studio must in the end be made to pay. The smaller rooms if well arranged and quietly furnished, suggest an air of comfort and repose that is almost instantly appreciated and very often reflected on the faces of those who come within its influence. Variety of treatment in color and appointments adds charm to such an arrangement, and affords opportunity for occasional change and rearrangement without material cost.

The general trend of studio construction to-day is along these lines, and this treatment will be found practical in most cases where alterations are being made. One thing, however, that should never be lost sight of is the importance of planning every change with reference to economy of space and of labor in the work rooms. Make every square foot of floor space yield up its utmost of convenience and value. So lay out the plan of rooms that the intending sitter naturally and easily passes from the reception-room to dressing-room and skylight, but what is of far more consequence, that the filling-room, the developing-room, the printing, toning, washing, mounting, spotting and finishing-rooms are handy and convenient to each other. Let the work of the studio, so far as possible, be executed step by step along a progressive path that starts and ends again in the reception room. We may better say that starts and ends at the studio entrance, for this is the logical starting point and finality.

Whatever the attractions, conveniences and allurements to be found within the studio, see to it that every possible advantage is taken of the door-way, show-case or display window at the entrance to the studio. It is this part of the establishment that first meets the eye of the passer-by, and it should offer him or her a pleasing air of refinement, good taste and interest which should at once suggest the thought that work emanating from within is of good quality, of artistic composition, and such as appeals to the art-loving public in every way. Let the entrance arouse an interest that will attract the observer step by step within the studio; then it is "up to" the person in charge to take the order. Do not spend all the allotted amount of money within the studio itself, but see that the entrance has its own proportion in the changes and alterations that are to improve the studio as a money-making investment.

In carrying on all these alterations it is well to stand in with the local newspapers, and to see that the name of the studio is worked into the news columns just as often as possible. Every little incident connected with the progress of the building ought to be made the subject of a short local write-up, by which the name of the studio is constantly hammered into the attention of the public.

"LOOK PLEASANT"

BY PHILALETHAN

THE old time phrase, "Look pleasant," addressed by the man behind the camera to his self-conscious subject, may well, in turn, be applied to the operator himself. For in photography, as in every line of business, a pleasing personality is an invaluable asset.

This faculty is difficult to define. But it often seems to make all the difference between success and failure. Many men rise rapidly in their profession—make and keep a large clientele—simply because they are liked. Their habitual expression is a smile which causes all who come near them to feel that the world is a nicer place to live in than they had thought.

But let none imagine that they will make their way by wearing a perpetual grin. A pleasant manner is not enough. It goes without saying that trustworthiness must re-inforce winsomeness. And yet the solid qualities of industry and integrity need to be lighted up with cheerfulness, pleasantness. The day's work must be accepted and carried

through with a bright face, a kindly tone, a genial manner. Where these are present the work, however difficult and discouraging in itself or its conditions, will find acceptance.

Every business has to be learned, and the learning is not easy. In the course of it there will be many annoyances. People will prove unreasonable. We must learn to take these things both lightly and happily. There is no hope for a sulky person, or for one who is very thin-skinned and very prompt to resent criticism. Touchiness that curdles the feelings, and clouds the face is a serious drawback alike to happiness and efficiency. Would you succeed in attracting patronage, and in the not less important matter of holding it—culttivate, along with other necessary qualities, a pleasing manner. There are many business men—especially in artistic lines—who fall flat just at this point. They are industrious—hard-working—painstaking. By degrees they master the details and secrets of their profession. But, unfortunately, they neglect the graces.

If not actually rude and uncouth, they are by no means agreeable. They carry and diffuse no sunshine. There is nothing attractive about them. One of the brightest jewels in any man's character —and one of the surest guarantees of his success, is this quality of likeableness. There was a time when people actually deferred to what are called "rough diamonds." These were generally insolent and unmannerly fellows who sometimes prospered in spite of their defects. All sorts of excuses were made for them. It was said that they had nothing of the bear except his skin. But we have come to a time when the man who talks and acts like a beast is no longer excused. People have discovered that the "rough diamond" is only a piece of glittering glass!

Wherefore, men and brethren, *"look pleasant."*

POSITIVES DIRECT BY REVERSAL

A PAPER read before the Photographic Society of Lorraine and published in the current issue of "Le Moniteur de la Photographie" has for its subject the production of positives direct in the camera by the reversal method, which is now familiar to most photographic workers in its application in the Autochrome process. The anonymous writer lays much emphasis on the advantages of the method in ordinary photography, particularly to the stereoscopic worker, since it dispenses with the negative, and at a lesser cost permits of the speedier and less laborious preparation of a single stereoscopic transparency. It is pointed out that where it is required to make a few prints, or enlargements, from the negative, this may still be done without sacrificing the convenience of the method. It is recommended, in this case, to employ the negative in the unfixed state after the first development, the silver bromide still in the film presenting no drawback beyond the necessity of longer exposure in making enlargements or contact prints on development paper. The process, of course, consists in developing a negative image in the ordinary way, using a backed plate, and preferably the acid diamidophenol developer. Development needs to be thorough, namely, to the back of the plate, and it is best to wash out the developer completely by means of water containing a little acetic acid. The plate may then be dried and printed from, or the conversion into a positive transparency may be immediately carried out. Of the many formulæ which

may be used as solvents of the silver image the two found best for use upon the thicker emulsion film of most negative dry-plates are the following:—

A.—Potass. or ammonium bichromate 1 gm.
Sulphuric acid ..... 10 gms
Water ....100 ccs.

The plate is immersed in this bath until the negative image completely disappears. It is then given a rinse, and placed for about 15 minutes in a strong solution of sulphite or sodium bisulphite. It is then again washed in running water for about half an hour, or longer, if bisulphite has been used. Any re-developer is then applied, and its action stoped when sufficient intensity has been obtained.

B.—Copper sulphate, pure .... 3 gms.
Sodium chloride (common salt).. 15 gms.
Water .....100 ccs.

The negative image having been completely bleached in this bath, the plate is washed and passed into strong solution of soda sulphite, which dissolves the image (silver chloride) without appreciably touching the residual silver bromide. The action is continued until a full positive image is obtained. The plate is then washed and darkened by the re-developer as before.

Transparencies prepared by either of the above formulæ may, if required, be fixed in hypo, and, after washing, may then be intensified or reduced by the usual methods. These, however, are not necessary if the first development is correctly performed. It is claimed for the process that the transparencies are much superior to those prepared by development of transparency plates printed from negatives, and are particularly suitable for transparencies to be viewed in the stereoscope. This latter instrument requires to be one of the "direct" pattern in order to secure the stereoscopic relief without transposing the two halves of the transparency.—*British Journal of Photography.*

TO BE THOUGHT OVER

It makes very little difference what you do, so long as you do it with intensity and enthusiasm. You must work hard, think hard, love hard. Make up your mind that your whole life will be a struggle, a struggle against weakness and temptation, against sickness and misery, against shams and falseness of all sorts. Every time you allow yourself to be beaten, every time you fail to accomplish the thing you set out to do, another step has been taken toward that bourn where the incompetent wither and shrivel up. All life, as far as we know, means strife.

If there is that in a man's nature which demands the best and will take nothing less, and he does not demoralize this standard by the habit of deterioration in everything he does, he will achieve distinction in some line if he has the persistence and determination to follow his ideal.

But if he is satisfied with the cheap and shoddy, the botched and slovenly, if he is not particular about quality in his work, or in his environment, or personal habits, then he must expect to take second place; to fall into the rear of the procession.

Men do not attain perfection by striving to do something out of the common. Perfection is acquired by doing common things uncommonly well.

TRANSLATIONS AND ABSTRACTS FROM ABROAD

BY E. J. WALL, F.R.P.S.

In a recent paper published by the Bureau of Standards at Washington a very simple method is given for differentiating between pure rag and wood pulp papers. The following solutions are required:

A. Zinc chloride	20 g.	308 grains
Distilled water	10 ccs.	168 minims
B. Potassium iodide	2.1 g.	32.4 grains
Iodine	.1 g.	1.5 "
Distilled water	5.0 ccs.	84 minims

Mix these solutions and allow to stand in the dark for 24 hours, then decant off the clear liquid and keep in the dark. This is known as Herzberg's stain. The paper to be tested should be cut into shreds, immersed in a 0.5% caustic soda solution and boiled for a minute or two, the solution poured off and the paper rinsed with distilled water, acidulated with 25% hydrochloric acid to neutralize the alkali. Then the water should be poured off, the paper kneaded into little balls about the size of peas and two or three put into a test tube and shaken till the whole becomes a pulp. A few of the fibres should then be picked out, put on a micro slide, dried and teased out into individual fibres and stained with the above solution, a cover glass being pressed firmly down, any exuding liquid being absorbed by blotting paper.

Cotton and linen fibres are stained a wine-red color, mechanical ground wood fibre turns yellow and chemically treated wood pulp a deep indigo-blue. An extra drop or two of the iodide solution gives a deeper red to the rag fibres, a little extra zinc chloride a deeper blue to the chemically treated wood and a clearer yellow to the mechanical wood fibre. It is important to note that the preliminary boiling in alkali must not be omitted, as otherwise, if the paper be starch-sized the whole will turn deep through the formation of starch iodide. —*Chem. Engineer,* XVII, 3.

A Note on Sulphiding Toning

Mr. N. C. Deck, who has made quite a study of sulphide toning, points out that bromide in the developer has considerable influence on the resultant tone, and he strongly recommends a strong, highly restrained and fresh developer for each print. In order to save developer the print should be first soaked in water, and then if the area of the print in square inches is divided by 60, the result will be the correct quantity of developer to use. Test prints were made behind a paper scale with thirty steps and the following developers used:

Normal Developer

Amidol	2 grains
Sodium sulphite anhyd.	10 "
Potass. bromide, 10% sol.	2 minims
Water	1 ounce

Restrained Developer

Amidol	5 grains
Sodium sulphite anhyd.	10 "
Potass. bromide, 10% sol.	50 minims
Water	1 ounce

He tabulates his results as follows:

Developer.	Strip.	Exposure.	Time of development. min. sec. (limit)	Steps from black to white.	Color on toning.
Normal	F	30	2	5-21	Good sepia.
"	H	30	1	1-19	Yellow sepia.
Restrained	A	60	1	3-18	Yellow sepia (like H).
"	B	60	2	6-19	Good (like F).
"	C	60	3	7-20	Cooler sepia.
"	D	60	4	8-21	Cooler sepia still
"	E	60	5	9-22	Cold sepia.

with the normal developer and less than the limit of development there is always a tendency to yellow in the sepia.—*Harrington's Photo. Jour., through B. J.,* 1913, p. 549.

Statements with regard to sulphide toning must always be taken as applicable only to particular conditions, such as paper, developer, bleacher, etc., and what applies to one paper will not necessarily apply to another. The whole process is so bewildering and tantalizing in its apparently whimsical variations that too much reliance cannot be placed on any statement, which is tantamount to saying that we know nothing about it.

Another Sulphide Variation

The following is stated by "Toner" to give a fine sepia platinum tone on bromide and gaslight papers. Slightly underexpose, develop, fix and treat with the mercuric iodide intensifier for a minute or two, wash, pass through a 1% hydrochloric acid bath, wash

for 10 minutes, then treat with a saturated solution of barium sulphide.—*Phot.*, 1913, XXXVI, p. 17.

There is absolutely nothing new in the use of a mercury or some other metal for modifying the color of a sulphide toned image; obviously any metal which will form a double salt with the silver of the image and can be reduced to a colored sulphide must modify the resultant color. The only novelty in the above is in the use of mercuric iodide.

Positives Direct on Paper or Films

A great many people have tried to find a direct process for obtaining positives direct in the camera. J. Gout proposes to effect this by developing a film or paper as usual, then immersing for 60 seconds in a solution of barium, ammonium or sodium sulphide, then treating with the following solution:

Alkaline bromide	50-200 g.
Chromic acid	5-20 g.
Nitric acid	5-20 ccs.
Water	1,000 ccs.

When the positive is formed the print should be fixed in an acide fixing bath.—*Fr. Pat.* 449419.

The idea is obviously to dissolve the first-formed image by the action of the chromic-bromide mixture, and reduce the unexposed silver halide by the sulphide.

Tanning of Gelatine by Cerium Salts

Eitner states that a very acid or concentrated solution of ceric chloride converts gelatine into a product which is more like rubber than leather. Most of the ceric salts, if dissolved in concentrated form and neutralized till a faint precipitate is formed, will, when diluted act in the same way.—*Photo. Revue*, 1913, p. 56.

Garelli has already proved that ceric salts hardened gelatine and much more so than cerous salts.

Dichroic Fog

Fortunately the advance in dry plate making has been such of recent years that examples of "red," "green" or "dichroic" fog are rarely met with and when it is, it is always the fault of the user and not of the maker of the plate. Lüppo-Cramer has succeeded in obtaining some good prints of true dichroic fog in the form of a tree-like structure, which were found on some under-exposed X-ray plates. This fog is, as is well known, colloidal silver, and it is rather rare to find it deposited in structural form. It can nearly always be ascribed to traces of the developer reducing the silver halide just as it is being dissolved by the fixing bath. Washing well between developing and fixing and the use of an acid fixing bath are sure preventives.—*Photo. Ind.*, 1913, p. 975.

Dichroic fog is more often met with on very slow clean-working plates and papers than on fast ones; but it can be invariably produced on films by allowing two to stick together in the fixing bath. The yellow spots produced on bromide, and particularly gaslight papers, by incomplete immersion in the fixing bath are good examples of dichroic fog, which then usually appears yellow.

Actinometer Paper

Lobel recommends the use of bromide paper immersed for three minutes in a freshly prepared 3% solution of potassium nitrite (not nitrate) for determining the duration of exposure for an enlargement of three times linear with F. 32, by printing out on such paper under the negative to be enlarged. The duration of exposure for obtaining a distinct image is that required for the enlargement—*Zeit. fuer Repro.*, 1913, 5.

The use of nitrite paper dates back to 1881 and it has been repeatedly used for determining the exposure for enlarging. In fact, instructions for such use can be found with either the Watkins or Wynne exposure meters, and if the ratio between the standard tint and the light source is once established it is unnecessary to print from the negative as suggested.

Desalme's Intensification Process

Namias has been experimenting with this process, which consists of bleaching the image with cupric chloride and darkening with sodium stannate. This latter is made by adding 10% solution of sodium hydrate to a 1% solution of tin chloride till the first formed precipitate of stannous hydrate is just re-dissolved. Namias finds that it can be used for bromide paper but the intensification is more pronounced and a warm brown-black image results. Similar results are obtained by bleaching with a chlorizing mixture, such as bichromate and hydrochloric acid. It is obvious from this that the copper salt plays but a minor part in the intensification—*Photo. Korr.*, 1913, p. 303.

A tin salt, stannous tartrate, was first suggested by Helain in 1897, in conjunction with mercuric chloride. In both cases the silver-mercurous or the silver-cuprous chloride is reduced to metallic silver and mercury, probably with the deposition of some basic tin salt.

Mercurial Intensification in Two Stages

Namias strongly recommends bleaching the negative in mercuric chloride, washing as usual, blackening with 5% sodium sulphite solution and then applying a diluted metol-hydroquinone developer. The sulphite bath must not be stronger than the above or it will dissolve the silver chloride. He states that this gives much more intensification than the sulphite alone and that the process is particularly suitable for autochromes.—*Photo. Korr.*, 1913, p. 304.

As pointed out by Chapman Jones in 1893, and confirmed by Valenta in 1902, a mercury-bleached silver image when treated with weak sulphite, contains metallic mercury, metallic silver and some silver chloride, and the use of a developer would therefore reduce the latter to silver.

PROTECTIVE CLOTHING FOR X-RAY WORK

L. G. DROIT has carried out a series of experiments to find a suitable protecting material for X-ray operators and has discovered that silk is the most suitable fibre as it can be weighted with metallic compounds to a greater extent than any other. For instance, it will carry 68% of its own weight of a compound of lead phosphate and tannin, and gloves made of six thicknesses of this, whilst quite thin and supple, are a perfect protection to the hands against X-ray burns.—*L'Ind. Electr.*, 1912, Nov.

DEATH OF A WELL KNOWN MAN

DR. E. A. JUST died at Vienna on July 12 after a serious operation. His name is probably better known in Europe than on this side, but since 1874 he has been a prominent figure in the photographic world, and was the first to manufacture albumen paper in Austria; later this was followed by other papers, notably a platinum paper and subsequently gelatino-chloride. He retired from business in 1908. He was the author of several works on printing processes, one of which was translated into English and enjoyed a considerable sale.

PHOTOGRAPHY IN GREAT BRITAIN

A Review of the Month from our own Correspondent

London, August.

THE professional photographer of this country has, like the sartorial artist, to contend with the vagaries of fashion, and a brief survey of the windows and showcases of London's photographers, whether the Court artist in Baker St. or the most modest suburban "strictly back" vendor, show a distinct tendency to revert to the vignetted portrait. Another dominating style in portraiture is the firelight study and last week I counted no less than seventeen studios in the West End who featured as the "mode of the moment" for society sitters the firelight study. These are generally executed in a most pleasingly artistic brick-red tone as the finish to an ordinary matt bromide print. Hitherto it has been the rule rather than the exception for professionals to tone such photographs with one of the stock tones. I have myself employed the Sepia tones put up by the Kodak Co., with passable results, but the new "firelight" effect referred to is produced entirely different—hence its distinction.

Brick Red Firelight Effects

This process is known in some of the studios as "brick-red" toning and a dispenser employed by one of the largest Baker St. houses has furnished me with details of its working. The ordinary firelight effect having been obtained in monochrome the bromide prints are allowed to dry and care must be taken that they have not been fixed in acid-hypo. An ordinary crystal hyposulphite bath is sufficient. The prints are then immersed in the following bath:

Copper Sulphate	24 min.
Potass. Oxalate	120 min.
Acetic Acid	6 min.
Ammonia Alum	60 min.
Potass. Ferricyanide	18 min.
Water	10 oz.

Time and experience only can determine the length of duration, but as soon as the image transforms into a sparkling brick-red color the prints should be briefly rinsed and rocked in the following clearing bath:

Copper Sulphate	30 gr.
Sodium Chloride	6 gr.
Hydrochloric Acid	3 min.
Water	1 oz.

A final washing completes the process.

Increased Cost of Materials

The increasing by manufacturers of the price of photographic materials still remains a vexatious problem, both with the manufacturers and users. The editors of two amateur journals on this side appear, from correspondence in the newspapers, to have been dragged into controversy upon the subject while the open columns of almost every journal have at some time or other been inundated with letters from dignified workers. Many remedies to suppress the autocracy of the manufacturers are being extended,—some logical, some worth consideration, and some utterly absurd. For instance, the secretary of one photographic society suggests that photographers as a body go on strike for three months. Another proposes that the trade lecturers of offending

firms be boycotted this winter while the establishment of a co-operative plate factory by photographic societies is given as a likely solution. It is left for a daily newspaper to suggest a public inquiry into the organization of the British photographic trade. To the writer there does not seem to be any immediate necessity for the 25 per cent. increase and despite the plea of increased cost from the manufacturers the single fact that the founder of a well known firm recently died worth almost half a million pounds does not suggest that under the old charges plate manufacture was a poor business.

Distinguished Manufacturers

Mr. George Eastman, the head of the huge Kodak Co., has just arrived on a short visit to this country. His headquarters are, of course, the Kodak skyscraper in Kingsway. It is rumored that Mr. Eastman's visit concerns the moving picture industry rather than the ordinary photographic business.

It is with regret I have to record the death last week of Mr. George Houghton, the leading spirit of Houghtons, Ltd. In the fullest sense of the word Mr. Houghton was a photographic pioneer, for about the middle of last century he obtained from Daguerre the patents of his then new process. Times changed, however, from the wet-plate days and the most recent instrument from the Houghton house is the Ensignette, well known both in America and England.

Material which cannot be Photographed

It has been by means of photography and clever retouching that the bank-note forger has been most successful; but his activities would now seem limited in view of the invention of Mrs. E. Hart. This lady has discovered a process of waterproofing satin with such an effect that the surface of the material reflects light in a manner calculated to absolutely defy the camera. It is proposed by the inventor to employ waterproofed silk of this kind for bank notes and paper currency. Another use suggested for waterproofed silk, cotton, linen and other fabrics is to coat them with sensitive emulsions to be used for the direct printing of art photographs.

The Gevaert Competition.

The photographic competition organized by Messrs. Gevaert, the famous Continental manufacturers with prize money exceeding £1,000 ($5,000) resulted in many hundreds of prints being submitted from all countries. To criticise impartially the winning prints, whch I saw the other day at the Maddot St. Galleries the palm for all round artistic excellence should be awarded to the German exhibits. British come a close second with French, Austrian and Hungarian entries next. Mr. E. O. Hoppè, the notable portrayer of celebrities, Mr. C. Morton, Mr. W. A. Cadly, famous in child studies, and Mr. Frank H. Read, with characteristic landscape work, were the principal British prize-winners.

Intermittent Exposures

The Rev. F. C. Lambert advises under practicable circumstances the use of intermittent exposures in certain cases. Especially in architectural photography does this seem to be of value for inside a church or cathedral the photographer often finds itinerant visitors unconsciously walking into the exposure zone. Being in the majority of cases powerless to interfere he has to tolerate their wanderings, although in such circumstances the inconvenience can be minimized by resorting to intermittent exposure of the plate. Intermittent exposure consists of alternations of short duration between the period of exposure and such periods as the field of vision may be obstructed. Another opportunity for its profitable employment and one that may appeal to the photographic naturalist is when taking field flowers in natural surroundings. Ever so slight a breeze will perceptibly shake a field flower and it should be quite an easy matter for a careful operator to clap on the lens cap for a moment or two until the deflections of the subject cease. Care must be taken above everything to keep an accurate record of these broken exposures as the liability to over and under-expose is increased. Again in the case of interiors it is possible to vary the aperture during exposure and by giving a subject which should have twelve minutes at F. 11, six minutes with that stop and then twelve minutes at F. 16 the result is a pleasing combination of sharp definition and diffusion.

Intensification without Treatment

A novel device to improve weak and insipid Autochrome plates by intensifying the colors is just being marketed by a London house. The new intensifier is nothing more than a very thin tinted film which has to be placed between the Autochrome and the binding glass. These films are packed in sets of different tints and the prevailing shade of the Autochrome has to be supplemented with a similar tinted film. For instance, a landscape would require a light or dark green film, an interior a light blue-grey, and a sunset a red, orange or yellow, according to which shade is most prevalent.

Instantaneous X-Ray Photographs

It looks only a year or so ago since it required twenty minutes to expose under most favorable conditions an X-ray photograph. Even until a week ago it took a few seconds to secure a proper exposure; but a medical man has now made it possible to obtain an absolutely instantaneous snap-shot with perfect clarity and detail. The advantages to medicine are obvious for it not only ignores movement of the patient but also reduces the duration of the ordeal. The special type of coil providing the high current for illumination of the X-ray tube is capable of giving

momentary outputs equivalent to 50 kilowatts per second, but to stand this an extra strong X-ray tube has to be fitted. Thus, by means of a single brief electrical circuit a number of radiographs are made in rapid succession.

Famous Painter's Declaration

The question as to whether photographers are "artists" or not, seems to have been disposed of once and for all. A year ago several newspaper writers were debating the point but since the declaration by one that Watts, the master portrait painter, once declared that in the reproduction of likeness the camera beat him on his own ground, the subject seems to have been laid to rest.

To Remove Inkstains

Here is a recipe for a solution which, if applied carefully will remove ink blots from photographic prints and enlargements without destroying the image: twenty per cent. each of citric and tartaric acid and sixty per cent. water. Apply with a camel hair brush and in dilute quantities at first.

Japanese Color Prints

Mr. F. J. Mortimer, F.R.P.S., this week commences his exhibition of Japanese color prints at the gallery of the London Camera Club. About ninety pictures are shown, nearly all clever reproductions of the masterpieces of Oriental artists of a century ago, particularly of the Ukiyoye school. Mr. F. S. Strange, the eminent Japanese authority, has prefaced the catalogue and points out that the color-print is the perfectly harmonious result of the united labors of three separate individuals, the designer, the engraver and the printer.

The Autographer

A specification has reached me of an improved type of automatic postcard finishing machine known as the Autographer and which will be upon the market in a few weeks time. The apparatus resembles a rectilinear steel case standing upon four feet and ornamented with innumerable handles, levers, screw taps and wheels. In principle it works not unlike a modern newspaper printing press, for the postcards are "loaded" on rollers in bands of a thousand or more at a time and threaded in contact with the negative first through the printer, then respectively through the developing, fixing and clearing tanks, eventually emerging from between a pair of absorbent drying rollers. Very powerful solutions will have to be used in connection with a machine of this kind which turns out postcards at a rapid rate. It has been designed primarily for the use of traveling photographers to produce topical postcards on the spot and will sell in America at $170.

Cold Electric Light

Prof. Chas. F. Dussaud, a young French scientist, recently demonstrated in London the generation of what he claims to be perfectly cold electric light. In principle and in practice the invention consists of a new adaption of an alternating current momentarily illuminating the wires in an incandescent bulb. As, in this specially constructed bulb, there are two or three sets of wires the current has not time to generate heat before it changes its support from one wire to another. This process is continued rapidly with the perceptible result that there is one bright light within the bulb. Cold light, it is stated, is much more photogenic than even magnesium powder, but the first and almost unbelievable advantage is that the illuminant is quite cold. Thus, it will be possible to replace lantern slides by films without a risk of them igniting in the lantern. In this direction alone the boon to the kinematograph industry is enormous. Opaque materials, illustrations, engravings and photographs, says Prof. Dussaud, can be projected on the screen by this powerful light and photographic enlargements made in the ordinary course from them. To the average mind these claims will appear to be somewhat sweeping, but as the patents have been readily taken up both here and in the United States the inference is that there must be promising possibilities in the new illuminant.

A Wrinkle for Retouchers

Mr. W. Curtis, who is regarded as an authority on retouching, employs a method claimed to be better than either pencils or brushes. For spots and pinholes he uses a set of ordinary needles which have previously had the points rubbed away on a whetstone. It requires practice and patience to get into this way, he says, but the results are much finer and in rapid work there is less liability for the medium to spread. The lines on scratched negatives should be stippled with dots by a fine needle instead of with a brush.

An Amazing Theory

Last year art circles of the world were breathless at the mysterious disappearance from the Paris Louvre of Leonardi di Vinci's madonna picture "La Giaconde." Many theories were advanced at the time, including one that an American multi-millionaire had had the canvas stolen. This week, however, comes a new story to the effect that a French photographer having discovered a new chemical process for the reproduction of oil paintings was given permission to copy "La Giaconde." All was made ready but during treatment the wrong chemical solution was rubbed over the canvas. The painting was discolored beyond recognition and in some parts vanished and the Louvre directors, knowing they would be blamed, wildly rushed to the police, press and public the story that the painting had been stolen.

J. B. SUTCLIFFE.

A good photographic magazine will tell you the true value of new things, but a busy editor should not be snowed under with fool questions.

EDITOR'S TABLE

The Present is Here

NOT by what a man *has* done, what he *can* do, but what he *is doing,* is the proper estimate to put upon his professional standing for skill. The word reputation tastes very good in the mouths of those who pronounce it as applied to themselves, especially those of the old-school type, or more properly the old fogy species. It is a comfort and a pride to them, as well as a damage. A man may not lean back in his easy chair with thumbs in the armholes of his vest and invite the "younger fry to contemplate him as a conspicuous figure of the past."

It is dangerous to be satisfied. The past is not good capital to do business upon. We cannot live upon the dinners we ate years ago. "The mill will not grind with the water that has passed."

The present is here; it is our opportunity and our friend if we choose to make it so.

The man who sees in the near future, just before him, something better than he is doing to-day, and resolves to accomplish it, has the progressive spirit of the time. To him we look for advancement, and from him we get it.

Profit in Details

Many ways are advised by which the photographer can increase the yearly income derived from his business, but the profitableness of giving careful attention to the small details has not, in our opinion, been sufficiently realized by the majority of the workers in small galleries, where every little thing tells for or against the photographer at the end of the year.

Experience has taught us that in the daily conduct of a gallery there are many opportunities both for making and saving dollars which are too often left ungrasped because, looked at separately as they occur, they seem to be "little things," and so not worth attention. For instance, when the new aristo papers came into use, the statement got abroad that the "wastes" of such papers were not worth refining, as containing little or no silver. Doubtless thousands of dollars have been thrown away by the fraternity, which, if saved, would have started the endowment of a national school of photography. We would advise that all clippings of printing-out papers and all baths and wash-waters should be saved and reduced.

In the buying of stock or furnishings an ounce of forethought is worth a pound of the other kind. How often the photographer is persuaded to buy this or that accessory because the other fellow is using one of the same sort, only to find when the purchase arrives that its uses are very limited, and that a little thought would have resulted in a better investment for the same expenditure.

Of the profitable details which deserve attention in the handling of patrons at the gallery, we need not expatiate. There are some people who know exactly what they want when they come to the photographer, but the majority can generally be persuaded to extend or change their orders in a profitable way if properly handled at the studio. Of course, there must always be tact and courtesy used in this; but we know that in the leading galleries the business of a single day is often doubled by attention to this detail in the right way and at the right time.

Mrs. Snowdon Ward

Following the death of her husband by less than two years, Mrs. Snowdon Ward, who

was well known in this country before her marriage as Miss Catherine Weed Barnes, died at her country seat in Kent, England on the 31st of July, at the age of sixty-two.

Mrs. Ward was for many years one of our most enthusiastic and successful amateur photographers. She began using a camera in 1888, and continued practicing her hobby almost incessantly until the time of her death. She never seemed to lose pleasure in making photographs, and doing practical photographic work, particularly the illustrating of books.

She did not seem to care so much for the later developments of the photographic printing and reproductive methods as she did for the older processes. She was particularly interested in portraiture; and, before her marriage to Mr. Ward, constructed for herself, at her home in Albany, N. Y., a perfectly equipped studio, with back-grounds, accessories, and many cameras and lenses for use in her portrait work and for experimenting.

She was, for a number of years, editor of the "Amateur Photographer," and was a regular contributor to the "Photographic Times," and other American publications. She attended the Conventions, and photographic meetings, and was always interested in everything pertaining to photography and photographers.

It was on a visit to England, to attend one of the National Conventions there, that she met Mr. Snowdon Ward. Their congenial tastes at once drew them together, and an early and very happy marriage was the result. After her marriage she did a great deal of practical work, as well as editorial, in collaboration with her husband, illustrating his books and lectures on Dickens, Shakespeare and Chaucer. It has been estimated that her negatives, accumulated for this purpose, and in her previous visits to England, numbered not less than ten thousand.

Mrs. Ward belonged to a distinguished American family, being the grand-daughter of Thurlow Weed, the eminent statesman, and a sister of William Barnes of Albany, N. Y. Though she made England her home, after her marriage with Mr. Ward, she never surrendered anything of her nationality, and was always American in her interests and sympathies. She will be deeply mourned by a very large circle of friends, and others who have known and been benefitted by her generous nature.

Under the Skylight

It is quite natural for many people when about to sit for a picture to feel unnatural. To overcome this feeling in his subjects is one of the greatest difficulties set before an operator.

Did you ever go to a stranger and ask him to make a negative of you? If not, try it; you may be able to see yourself at work, and thereby gain a point. We are all apt to get into ruts.

It is natural for a great many women to say, all in one breath: "Now, how are you going to take me? I want one this way, and one so; and don't you think this way would be nice?" What is your answer? Another will say: "I am going to put myself entirely in your hands," and she does not mean it. She sits down like a bunch of icicles and with a frosty countenance that would make almost any operator have the chills. You are busy; there are several sittings waiting, and you are to get a good picture of this subject, and keep your temper and draw your salary with a clear conscience. To break the ice you allow your subject to assume different positions in several chairs before you attempt to make a negative. Some of the best pictures are often those where the sitters have taken their own positions, with perhaps a little touch here and there.

It is natural for people to come back and sit over, and resittings are almost always desired from the best negatives you have made in a month. It is also natural for the operator to feel like fighting in such cases, but we think the argument does not belong to him; it should be done in the reception-room. The remark: "I cannot improve on those proofs, not if I should sit you for a week," and then get to work and discount them without breaking a bone. The sitters will not feel like sitting the first day, but having been treated without boxing-gloves or hooks, they will return with a different spirit. If you manage them in this way you have the reins and can drive as you like; you see a new and better picture in the same subject.

You may feel discouraged to see a party walking in to sit over, with a handful of proofs that you have worked hard over and felt proud of. But a good part of the art to learn in the beginning is to keep on your feet, and do your swearing in the dark room (but not at your assistant, for it may have a tendency to rattle him, and he may spoil some of your best efforts). "Hard work does not hurt, but a bad negative is a pain forever." The poor negative is most surely the one that will get a duplicate order often enough to keep the picture everlastingly before you, but it does not bring you any trade.

Alertness

Aspiration is the invariable antecedent of all permanent advancement. It implies a broad and distant mental outlook, a kind of depth of mental focus. Victor Hugo says, "No perspective, no ambition." There must be with the mind truly ambitious an apprehension of possibility as well as opportunity.

The photographer must have an outlook and aspiration that rises to the very best possible in his art. After all, art is the end,

not plates, not prints. His work lies within the sphere of the imagination, and through it he is to exalt human life.

The outlook will sometime be misty and indistinct. Burns used to say that the images which he draped in verse came out of the fog. That is true of every creative genius, its images are born or formed of cloud or mist. Photography does not disclose all its artistic possibilities. Its future is enveloped in mist, but the mist is full of images. We cannot exhaust them. It is not for us to see them all at once in their bewildering variety and dazzling beauty, but to maintain our expectancy and to evoke them in more and still more beautiful and wonderful forms. The past is a lesson; follow the photographic exhibitions of the last decade; who would have dreamed twenty years ago that, with our present instruments, such creations were possible as those displayed at the last convention? Then they were in the fog, now they are in the light.

Now is the time for expectancy. We may look for greater things. Aspiration is prophetic. Who is satisfied? He that is dying. What is good enough? Nothing. Developers are like brushes and pigments. The painter uses not all flat brushes, not all sharp pointed; not all blue or yellow colors. We have not yet learned how to use the developers. Be on the alert, follow suggestions. Have a knowledge of chemistry that will enable you to blaze a new path in development if the chance comes. Get something first hand. Be not always a dealer in second-hand wares. Why should we always get our studio plans and formulæ and methods from someone else? Ponder. There is a wonderful and inexhaustible power in inventiveness if you keep it alive. The spirit of the new and better thing in photography is flitting around you waiting for incarnation. Attend; keep your ear open with an open mind back of it. Someone must usher in the new era, it may be you. Let alertness be your watchword.

NOTES AND NEWS

Sulfinol—A New Developer

The January issue of the *Bull. Soc. Fran. d. Phot.* gives an abstract from *Wiener Mitteilungen,* concerning a new developer called "sulfinol," a complex benzene derivative, introduced by R. Hergerth. It is a powder of grey tint, slightly soluble in water; more freely in solutions of carbonates and alkalies. The former are better accelerators for it. The images are said to be soft and the whites quite clear. Bromide paper is said, however, to be especially suited for its use, since the very slow development permits of control. The first indications of image appear in about three minutes. It is very susceptible to the retarding influence of potassium bromide, with the use of which a print can be kept in the developer for twenty minutes, without injuring the high lights. The following formula is suggested:

Water	32 fluid ounces	1000 C.C.
Sodium Sulphite (Dry)	300 grains	10 grams
Sodium Carbonate (Dry)	1 ounce	30 grams
Sulfinol	300 grains	10 grams

The sulfite and carbonate should be dissolved in about 10 ounces (300 c.c) of the water, the developer added and the solution made up to the full volume. It is said to keep well in stoppered bottles The addition of 0.5 gram (7½ grains) of potassium bromide will give good results, but prolong the development considerably.

In connection with the description of the new method, the author gives some interesting data on the history of dry plate developers. Pyrogallol was used in 1850; ferrous oxalate, first prepared by Carey Lea in 1877 was applied as a developer by Eder in 1879. A French writer has lately advised a return to this developer. Hydroquinone was introduced (by Abney) in 1880; metol in 1891. The last being a copyrighted name, cannot be used by manufacturers generally, but the same substance is sold under other titles: Tylol, josephol, pseudotol, satrapol, monol, scalol. Even "pyro" has been sold under the "piral."

Enlarged Negatives from Autochromes.

It sometimes happens that one has an Autochrome of exceptional beauty, from which it is desired to make a larger print in monochrome, and for this purpose the Autochrome can be used as the intermediate positive from which enlarged negatives are made. If the enlarged negative is made on an ordinary plate, the granular effect of the Autochrome will be very apparent, and to get a smooth negative with this granular effect eliminated one should use an Iso- or Ortho-Chromatic plate with a 3 times, or preferably 5 times,

ray screen. This will give an enlarged negative of a fine quality, equivalent to an original negative made with a ray filter, as all the colors of the Autochrome will be represented in the enlargement in their proportional values of black and white.

Developing with Stale Bromide Paper

Bromide paper a year or more old is apt, upon being used, to give muddy prints when developed with the usual strength developer.

Water	8 oz.	250 C.C.
Sodium Sulphite (Dry)	30 grains	2 grams
10% Solution Pot. Bromide	10 drops	10 drops
Amidol	10 grains	0.6 gram

The formula may be more easily remembered by bearing in mind that only one-third the usual quantity of Sulphite and Amidol is used in conjunction with the regular quantity of water and 10 per cent Bromide Solution.

The Higgins Photo Mounter, one of the best photographic pastes we know, seems to have achieved an international reputation. An English writer on the mounting question refers to it as his favorite mountant and there are many photographers we know in this country who could not be persuaded to use any other. If you have not yet used it a small jar from your dealer will convince you of its great superiority.

Voigtlander's "Heliar" is a lens specially designed for the photographer who cannot afford to keep a large battery of lenses suitable for every occasion. While it has speed enough for instantaneous it has good covering qualities and plenty of depth for group work. The focus will be found to be right for the studio of moderate length. The photographer in search of a lens of this character and capability will do well to investigate the "Heliar" before purchasing.

The complete catalogue of Eastman professional photographic apparatus and material has come to hand. This catalogue is published for the convenience of the profession and of dealers handling their goods, and includes only such products of the Eastman Kodak Company and its divisions as are used by the professional photographer. Every studio should have a copy.

The Wollensak Optical Company do nothing half way, and they have added largely to their reputation with their very tasteful and artistic "Verito Lens Book," which has just been received.

There is an excellent article on the soft focus lens, written by the well-known author of articles on this subject, Arthur Hammond, and several shorter articles of practical value to all photographers. The twelve illustrations, too, are beautifully reproduced on Japanese paper of the finest stock, and are admirable examples of the best and most recent portraiture. This valuable little book is issued in a limited edition, and can only be had on special application.

The new research laboratories of the Eastman Kodak Company at Rochester, under the direction of Dr. Kenneth Mees, occupy a three-story steel frame building eighty feet square, with a basement for machinery of the heavier kind and will be devoted to all kinds of problems in optics and photography. The first floor has rooms for making dry plates, and light filters of about ninety different standard colors, with a large scientific library. On the second floor the physical laboratory will investigate the optical properties of the eye and of the sensitive plate, and includes photometry, sensitometry, spectroscopy and colorimetry. The physico-chemical laboratory is arranged for exact analysis, electro-chemistry and a special study of gelatine. The third floor has studios for colored and other photographic work, with an x-ray room, a projection room, facilities for work with the ultramicroscope, etc. The value of so well equipped laboratory cannot well be estimated.

A New Copper Photographic Process

Photographs upon copper plate are now made by a new process. It has been desired to use the sensitiveness of cuprous salts to light, especially for transferring engraving designs upon metal, but such images could not be fixed, as reagents dissolve the copper salts, both acted on by light or unaffected, in about the same way. By a new process, a polished copper plate is exposed to chlorine gas for a few seconds to produce a sensitive layer, then it is exposed under a negative for ten minutes in sunlight, after which a positive image is seen. The sensitive layer should be extremely thin, as a thicker layer is less suitable and is found to be in some cases twenty times less sensitive. Fixing is readily done by a toning-fixing bath containing but little hyposulphite and already charged with silver salts coming from previous use with paper toning. On the plate the affected parts take a brown hue and the rest dissolves out. Other baths can also be used. The image made by this process looks somewhat like a daguerreotype—*Scientific American.*

Non-Abrasion Developer

Glossy developing papers, says *Portrait,* will, if carelessly handled, show at times abrasion marks which may be obviated by using a developer compounded as follows:

Water	40 ounces
Metol	15 grains
Sulphite soda	1 ounce
Hydrochinon	60 grains
Carbonate soda	¾ ounce
Bromide (crystals)	25 grains
Red Pruss. potash	5 grains
Oxalic acid	5 grains
Iodide potassium	5 grains

Mix chemicals in the order given.

The Cleveland Camera Club

The Cleveland Camera Club has ready for issue to members, cards of identification signed by the chairman and secretary. In view of the proposed restrictions upon the use of cameras in the parks and existing restrictions in other places, the desirability of some means of identification is self-evident.

Membership in the club will be a mark of distinction. At present the dues have been tentatively fixed at $1.00 per month. Cards will be issued upon payment of dues, limited to the time for which dues are paid.

The work of organization and development, even when the largest items of usual expense, to say nothing of the time and work, are donated by loyal members, entails certain monetary outlay. A headquarters and facilities for work cannot be started or maintained without funds. It is therefore up to you to climb on the band-wagon and send in your check to the treasurer.

Concerted action by a number is always more effective than individual effort, no matter how well directed. The Cleveland Camera Club will be able to do more and stand for more as a united organization than the same number of photographers unorganized. A. D. Williams, secretary-treasurer, Box 102, Cleveland, Ohio.

If an accessory is never used it is rubbish; whatever its first cost it should be got rid of at any price. Accumulations in the dark room and in the store cupboard are an abomination. Be a man and have a merciless "spring cleaning."

Remember that a well ventilated dark room means health; and that safety lies not in a miserable apology for light, but in a plentiful supply of a perfectly safe one.

The ease of photography leads us to forget its extreme delicacy. We ought to be as careful to obtain the perfect print as to obtain the perfect negative.

The best materials are the cheapest, and the time spent in keeping apparatus clean is time well spent.

The most important national convention in the history of the American Optical Association was brought to a fitting climax at the Hotel Seneca, Rochester, N. Y., on the night of July 18, when the Bausch & Lomb Optical Company tendered an elaborate banquet to about 500 delegates, ladies and guests.

The occasion proved to be one of the big features of the week's activities, and made a very strong impression on the visitors as an evidence of Rochester's hospitality. The banquet is an annual event, but in Chicago last year, and in most other cities in which the convention has met in the past, the Association has given the banquet, and those attending have been obliged to pay several dollars for their seats. The Bausch-Lomb function was enthusiastically declared by the guests to be the best banquet ever enjoyed by the national order of opticians.

We have received the second edition of *The "Agfa"—Book of Photographic Formulae* edited by George L. Barrows and recently published by the Berlin Aniline Works of this city. The object of this valuable little book is to give a clear and definite explanation of the various "Agfa" developing agents, thereby showing the most advantageous developer to use in keeping with the results you are after.

The successful working of any formula is its careful preparation, and more especially its adaptability to the make of plate, film or paper used. They have, therefore, endeavored to secure the formula first hand from the various makers of plates, films and papers, and compiled these for your convenience.

Price 50 cents.

A Revolutionary Contribution to Professional Photography

The introduction of Eastman Portrait Film marks one of those great advances in convenience for the professional photographer, comparable in importance and far-reaching effect with the introduction of dry plates and developing-out paper.

When the dry plate superseded the old wet plate process, and when developing-out paper came into such general use, their success was due to the fact that each offered a quicker, easier, simpler way of getting the same or even better results than did the older mediums.

For the same reasons, Eastman Portrait Film is sure of like success.

Our film and emulsion experts have been working for many years upon the proposition of a film for studio and professional home portrait work. An idea so big in possibilities as this, meant to us the expenditure of unlimited time and care to bring it to absolute perfection. So when our experts announced that the problem was solved and gave us the finished article, before placing it on sale, we subjected it for months to the most acid tests. We tried it out, with excellent results, under every possible condition of professional photography.

But not content with testing it ourselves, we sent it to some of the largest professional studios in the country, and in each case it has been used with the greatest success and enthusiasm. One firm which makes a specialty of high grade home portraiture, and which operates in various cities, has adopted portrait film exclusively, because of the quality negatives they get and the ease of transporting and shipping.

Eastman Portrait Film has just been exhibited at the recent National Photographic Convention at Kansas City, where its enthusiastic reception exceeded even our expectations.

A moment's consideration of the advantages of Eastman Portrait Film will disclose the tremendous possibilities of big business for those dealers who push it.

Eastman Portrait Film will produce studio or home portrait negatives of surpassingly fine quality and most unusual gradation. One man of long experience in studio work, said: "The portrait film negatives are the finest negatives I ever saw." The emulsion is of extremely fine grain, making the negatives particularly fine for enlarging. It is fast enough for the most exacting, having about the same speed as the Seed 30 plate.

The film, of course, is unbreakable—an advantage that will appeal strongly to every photographer. In filing away or continual handling, the danger of breakage, through accidental dropping or otherwise, is entirely obviated. They can be sent through the mails without special packing, with the assurance that they will arrive intact. Home portrait workers who travel from town to town, will especially appreciate this advantage.

The films are light in weight and require very little room for storage. Their light weight will prove a boon to home portrait workers and others who do work outside the studio, as they will materially lighten the burden which such photographers must carry.

For purpose of storage, with each dozen films are furnished three fire-proof safety envelopes, each accommodating four films. This makes the filing away of negatives a very simple, safe proposition indeed.

Eastman Portrait Films are practically non-halation. They are so thin and are so free from glare, that there is no chance for sufficient light reflection to cause the halation effect. Home Portrait Workers have made pictures on these films, directly against the light of windows, without any discernible halation.

Eastman Portrait Films lie perfectly flat in the holders. They load in the same way as plates, and a V-notch in the top of each film prevents any confusion as to which is the emulsion side. When the film lies so that this notch is at the upper right hand corner, the film is always face up. It is coated on the back with gelatine, which makes it non-curling.

In development, several films may be developed in the same tray at the same time without danger of scratching or breakage, and in this way a batch of portrait film negatives may be easily developed in much shorter time than could a corresponding batch of plate negatives.

Eastman Portrait Film offers an excellent surface for retouching, and as it is coated on each side, the retoucher can work on both sides, when required,—an obvious advantage.

PRICES
(Including 3 Eastman Safety Envelopes for storing)

5 x 7	$1.10
6½ x 8½	1.65
8 x 10	2.40
11 x 14	6.00

HOLDERS

For the use of portrait film, we furnish the Eastman Portrait Film Holder in two styles—No. 1 to fit Century Cameras and Century Studio reversible backs, No. 2 to fit Universal, Empire State and Premo View Cameras.

PRICES

5 x 7	$.150 each
6½ x 8½	1.75 "
8 x 10	2.00 "
11 x 14	4.50 "

For those who wish to use the portrait film in their regular professional curtain slide holders, we furnish the Eastman Film Sheaths, by means of which the film can be easily loaded in such holders.

PRICES

5 x 7	$0.25 each
8 x 10	0.50 "

WHAT IS ART? A REPLY

EDITOR WILSON'S PHOTOGRAPHIC MAGAZINE,

I have just read the review of "The Conception of Art," published in your August number, and beg to express my regret that you failed to receive the errata sent out after I learned to my surprise that the book had gone to the reviewers with the plates uncorrected. Being unable to read the page proof the first edition appeared with numerous errors, the most unfortunate being the printing of the word "form" instead of *quality* in my definition. This definition had been penned three years ago and corrected on subsequent thought, the printer failing to note this. The argument of the first chapter and of the book as well revolves on this point.

That the epigram "Art is form" weakens under scrutiny is obvious when form is acknowledged to be both good and bad. It is not until form offers an opportunity for the development of quality such as the principles of art may secure for it, that it is of real service, and it is no more possible to have amorphous art than it is to have art founded on that which lacks this essential.

Again, though art is expressed in (qualified) form in literature, painting, sculpture and architecture we must avoid this term when we come to an important phase of music and select a broader term, for we cannot speak of the form of a tone, and the difference between musical art and musical effort is a matter of *quality* at this point. Realizing that "quality is the identification of essential character," we must accept it as the larger term, regulative of form, color and tone, and also of conception.

Your reviewer in declaring it "impossible to conceive of art as quality in the abstract," has failed to see that early in the argument I thus make it concrete. He regrets also that I had not read Bergson's essay on "Laughter," but much as I enjoy the quotation from it I am glad to have it come *after* I had formulated a definition, since I now have this distinguished corroboration. When M. Bergson says that "art is the revelation of the *individuality of things,*" he practically enunciates my definition, that art is the expression of quality—the identification of essential character.

I quite agree also that the school girl might know that art is a way, and it would require but the same understanding to perceive that the thing upon which art acts is an art object or an art result rendered so by the expression of its essential character through the principles of art. A picture, for instance, may have for its constituent parts a road, a fence, a tree, a lake, a house, etc., but if these are not expressed within essential character or true quality and unified by the essential principles of art which give quality of form or construction, the art appraisement is practically nil.

Replying to the query, what are the principles of art, I may again call the reviewer's attention to the text of my book wherein I state that a book dealing with this subject is now in preparation. I did not seek to avoid it, but have given it such amplification as that question demands. To name but four of the more important principles I would select Procedure, Opposition, Balance and Congruity. These and numerous minor principles all having their modicum of influence on a work of art may be run down by induction. They all have to do with the quality of the result for quality is manifested in degree.

Finally, my statement that art has nothing to do with subject I grant is too curt to be understood without developing. If art had to do with the *choice* of subject she would then be busy with all sorts of moral propositions and the argument of my book is that art stands aside from these questions and concerns herself wholly with such quality of rendering as may give aesthetic and intellectual pleasure. As I am in sympathy with the reviewer in his conclusions as founded on my garbled text I feel that I would like to be set right before the readers of your influential journal by such explanation as would justify us both, and beg to remain

Very sincerely yours,

HENRY R. POORE.

Lyme, Conn., Aug. 13th, 1913.

THE work of Helmar Lerski, of the Lerski Studio, Milwaukee, Wisconsin, is becoming so distinctive as to call forth special comment at this time. Mr. Lerski, while comparatively a new-comer, has rapidly come to the front, and his "style" is so exceptional and legitimate, that it is refreshing and profitable to see this new evidence of saneness.

Sidney Allan, in his admirable comment on Mr. Lerski's work, in our January issue, says: "His use of the photographic medium is founded on those methods common in Germany, but those methods have become modified by his personal tastes and an unusual degree of skillfulness; and it is by his own development of these methods that he is enabled to obtain qualities that are unusual and attractive. The interest of Lerski's art, then, lies mainly in its manner. He endeavors to combine two fundamental qualities of portraiture—the appreciation of a subject for its own sake and the desire to fit it in with his rather fixed ideas of what is suitable for art production. The unusual is forgotten. He strives to get at the character of the sitter, and his pliable methods, that sometimes fail him in his more ambitious effort, obey him completely in these instances. There is little to criticise in these portraits. They look like 'simple separate persons.' They show advantageous lighting, clear modelling, clever placing of the head, and an animated facial expression. There are no conspicuous mannerisms and yet the expression is peculiarly personal."

TOPICS IN LEADING PERIODICALS

Amateur Portraiture. June *Photo. Miniature.*

Bromide-Gum Process, The, Wm. A. Davis. Sept. *Photo Era.*

Converting an Anastigmat into a Soft Focus Lens, John W. Gillies. Sept. *Photo Era.*

Coloring Photographs, a New Process, Frank A. Rugg. Sept. *Amer. Photography.*

Enlarged Negatives. Aug. 8th *Brit. Journal.*

Focal Length and Pictorial Quality, H. C. Brown. Aug. 15th *Brit. Journal.*

Gum-Pigment Process, The, Paul L. Anderson. Sept. *Amer. Photography.*

Lens-Hood for Pocket Cameras, A. Aug. 22nd *Brit. Journal.*

Negatives on Bromide Paper, V. G. Middleton. Aug. 19th *Photography.*

Preparation and Developing Properties of Chloranol, The. Aug. 8th *Brit. Journal.*

Revolution in P. O. P. Printing, A. G. Watmough Webster. Sept. *Photo. Times.*

Renovating Daguerreotypes. Aug. 15th *Brit. Journal.*

Simple Studio Lighting. Aug. 22nd *Brit. Journal.*

Sulphate of Soda, A. J. Jarman. Aug. 27th *Bulletin.*

Transparencies by the Carbon Process, A. J. Jarman. Aug. 13th *Bulletin.*

PORTRAIT OF YOUNG LADY

BY M. J. STEFFENS, CHICAGO

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

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HOW TO MAKE A STUDIO PAY

I.—THE MAN AND THE LOCATION

BY FRANK FARRINGTON

Author "Selling Suggestions," "Store Management—Complete," Etc., Etc.

TO be successful in an occupation a man needs to develop the qualities that will fit him for the peculiar requirements of that occupation. Some men naturally possess the qualities that a photographer should have. Other men lack many of them but can develop them if they will try. Then there are a few men who lack utterly the essential characteristics needed to get on with customers and subjects and these men ought to find this out as soon as possible and find some other and more congenial business.

No one man can possess in perfection all the qualities desirable in making a success of the studio, but every man can find in himself some of these qualities well developed and others in embryo. Any man of ordinary ability and intelligence can develop the qualities in which he is lacking and increase the opportunities for their use.

To begin with, unless a man has health he is badly handicapped in the business race. The photograph business, like any other business, is hard work, continuous hard work. It calls for physical stamina to make good in the studio. This business is very largely a one-man proposition. The money is made by one man's work. In the average photograph gallery there is no regular assistant and a man makes just what he can himself hammer out. There are seasons when this one man can do all the work easily without overtaxing his strength. There are other seasons when he must work night and day or turn away patrons.

A man cannot do all his work and he cannot do any high-class work unless he is physically fit. Take care of your health

and you will be able to take care of your business.

It requires a clear mind to make money in the face of the competition of the present time and the man who over-eats, under-sleeps, drinks or smokes too much or dissipates in any way cannot keep his mind clear for long. Good habits are absolutely essential to making the studio pay.

Good physical habits are, of course, only a part of the requirements. Good mental habits are just as necessary. If you are not orderly, honest, reliable, prompt, accommodating, polite and agreeable, people will not come to you more than once. Having the only studio in the town will not give you a cinch on the business of the town if you lack these qualities. Having the only studio will not bring you a profitable business if people do not like to do business with you. The average person is not so crazy to have a picture taken that he or she will patronize a disagreeable or dishonest photographer. People are surprisingly willing to get along without having their pictures taken at all.

You cannot keep physically or mentally fit for business without taking more or less rest and recreation. You perhaps think you can get along without holidays, without recreation out of doors, without a vacation. You can get along but you handicap yourself and you shorten your business life. The "Can't get away" idea has put plenty of otherwise good business men under the sod ahead of time.

You can get away; you must get away. You must take half days off and you need a regular vacation every year with a complete absence of responsibility. Any business man will do more work and do it better working 48 or 50 weeks in the year than he will working 52 weeks. Of course, you cannot take time off without losing business, or losing money perhaps, if you leave a substitute in your place. The point is not that it costs you something, but that it is worth much more than it can cost. You cannot afford for your own sake or that of your family, to endanger your health or to shorten your life. All work and no play not only makes Jack a dull boy, but it will in time make him a broken down business man.

All that might be said about health and business would take a volume. It cannot all be said here. I must leave most of it to your imagination, but don't forget that you will do more work, do it easier, and make more money for taking time for fun, for outdoor recreation and for making and enjoying friends.

Next in importance to being the right kind of a man for your business is having the right kind of a studio for the business, a right location.

I am not going into any technical discussion of the advantages of this or that kind of skylight, or of north or west exposure, but I want you to consider the studio location in the light of its business value.

It makes a vast difference with the possibilities of your success where you locate your studio. If you are choosing a location, view this phase of the subject from every point. If your present location is not the best in town, find a better and lay your plans to make a change as soon as opportunity offers.

If you are not getting the business you ought to get, it may be that nothing but location is to blame. No one would think of locating a studio over a saloon. There are extremes like that to which no sensible business man would go, but there are other locations that are wrong though not as obviously so.

Consider competition in locating. If you are in a small town and there is perhaps one other studio, don't locate right where the man in the other studio can see your entrance from his windows or you may lose the work of personal friends of his who would rather come to you but who will not do it when they feel sure he will see them do so.

Don't locate where the entrance to your place is likely to be the center of a group of boys or men. Keep away from the centers where there is a tendency toward street loafing. If you are afflicted with loafers who perhaps persist in sitting on your stairway, oil the stairs

with a heavy floor oil and they will seek other seats.

You need an entrance in a busy section where your show case by the street will be seen by the most people, and a really busy place is not usually troubled with loafers.

Your entrance-way and stairway should be light at all times, and it should be clean. It will be very apt to be clean if it is light. It is the dark hallway with a half light that is dirty. Keep your stairway clean whether you keep the studio clean or not. No matter if it is technically not your business to clean the staircase, do it just the same. Don't let any technicality keep your trade away. Brooms are cheap and the time needed to sweep is time well spent.

The shopping section of the town is the best unless you aim to run a very exclusive studio, catering only to the few rich families. Get right in the busiest section and see that the outside of your studio, the entrance, the windows that front on the street, any part that is visible from outside, have an artistic look.

Don't use crude or cheaply made signs or tawdry ornamentation on the display cases. Give the studio a distinctive, clean-cut, simple but artistic look from the street. Make your name plainly visible from all angles. See that your business is advertised by signs visible from up and down the street if possible.

Make the most of your location by keeping the business people around you informed of your presence. Get on terms of personal intimacy with the adjacent business men. Make it plain that you are anxious to reciprocate in the matter of favors. Step into the various stores and let the sales-people know who you are. There are more or less inquiries as to who is a good photographer. The answer may include your name just as well as not if you make yourself known in your neighborhood.

In the same way in a smaller town the photographer who makes himself a part of the business life of the community, helping boost the local business men's organizations and visiting around with his fellow business men, will find things coming his way when the other man who is not a mixer, who, perhaps, takes the attitude that he is an artist rather than a business man, finds business dropping off.

It is all very well to be an artist, but to go to the extent of feeling that an artist does not need to mix business in with his art, is to court failure—probably successfully. Dignity is a proper thing in its place but it is easy for a man with something to sell to carry too big a load of it.

The matter of location should be considered with reference to trolley lines, particularly those bringing in out of town trade. A location where farmers can reach the gallery in a minute or so from the inter-urban station has a strong chance of getting that class of trade. The place of business that is easily reached is the place oftenest reached. Plenty of people avoid a studio with a hard flight of stairs and go into another no better which has an easier approach. Perhaps your stairs are in need of modification in tread or risers. There is an immense difference in stairways in these particulars.

Not less important than location is inside arrangement. First impressions are often powerful and enduring. Do you know what the first impressions are of your studio on the minds of your patrons? Why not ask a few acquaintances to be frank with you regarding what they first thought when they first entered your reception room? If you can get at the truth of the matter it may open your eyes to some serious and very unnecessary deficiencies.

We go in and out of our studios day after day and never notice little or perhaps great discrepancies that are seen the first thing by the stranger. A cobweb here, a roll of dust under that show case, a picture hanging crooked on the wall, a broken chair, an untidy display; any of these things may be the one thing that creates an impression on the newcomer. Such things are little things, and to judge a studio by them is unfair,

but we cannot always avoid being effected by these little first impressions.

I believe that you, yes, you—and I don't care how nearly perfect your studio may be, or how nearly perfect you may think it is—ought to walk into your place of business every now and then viewing it with the eye of a stranger. If you cannot do this, perhaps your wife has more imagination than you and can do it.

Don't stop with the reception room. Walk on into the operating room and sit down there and let your eye rove around just as you see the eyes of your patrons do when they are waiting while you adjust the scenery or the camera. If you can take this attitude you will be surprised to note that there are conditions of which you were previously unaware. The little things, the little discrepancies, are what mar perfection.

Any man can see the glaring defects of a studio, and it does not take much intelligence to correct them. But these little things that effect the sensitive visitor need a close insight.

Be the right kind of a man; make yourself into that kind if you are now lacking in some essentials: get the right kind of a studio location or improve your present location; arrange and adjust your studio equipment so it creates a pleasing impression. Having gone this far and done this much you have gone more than half way toward meeting the business that should be yours.

I have said nothing here about the necessity for a photographer knowing the technical part of his business because I assume that every man who takes up the work fits himself for it in advance. A photographer has no more chance of succeeding without knowing how to make good photographs than a doctor has who knows nothing about medicine. Don't stop though with what you know when you start in with a studio of your own. Study the methods of better men; study the photographic journals and the text books and hand books of the work; study the advice of the manufacturers of the materials you handle. Spend your spare time in study and you will advance in workmanship. The workman who does not improve in efficiency will go back in prestige and in cash receipts as well. There is no such thing as success for the man who is content to let well enough alone.

The subject for next month, in this practical series will be "Buying and Arranging the Stock."

REDUCING OVER-DEVELOPED AND FOGGED NEGATIVES

BY GEORGE SMEE

OFTENTIMES a negative possesses excellent qualities, but is too dense or too opaque for printing purposes, through over-exposure or over-development, or both; in either case the negative is termed a hard printer, owing to those parts which should have been almost clear glass being so clogged by a deposit of silver, thus preventing the penetration of light. Again, there are negatives that are so hopelessly fogged by being light struck where a ray of light has been allowed access to the plate previous to exposure so that a partial reduction has taken place upon the sensitive surface, which, upon development, has caused a complete fogging of the negative. In a case of this sort it must be discarded as useless, but where the negative is only veiled through faulty development, it can be made into one of good quality by care being exercised in the process of reduction. The method is simple, easy to work and sure in its action.

There are several ways of reducing a negative that is too dense; one plan is to let the negative remain in a strong solution of common alum for twelve hours; another is to let it remain in the acid alum hypo fixing bath for the same time. A glycin developed negative will quickly reduce in such a bath, persulphate of ammonia cannot be depended upon. Only a year ago I completely spoiled four valuable negatives 6½ x 8½, all interiors, by the use of this much vaunted chemical; that was enough for me; once the persulphate solution had penetrated the film its reducing action would not stop; it continued even in a forced stream of water until the negatives were ruined.

This led me to try a modified way of the employment of the reducer of Howard Farmer, which I have ever since employed whenever reduction is necessary. In this case I hold to the proportions named; they have worked so satisfactorily, that is reason enough for adhering to them.

In separate bottles make up the following:

Hyposulphite of soda	3 ozs.
Water	18 ozs.

In a second bottle of yellow or brown color I mix

Ferricyanide of potash (red pruinate)	2 ozs.
Water	20 ozs.

When dissolved, soak the negative to be reduced in the hypo solution. While that is soaking I mix equal parts of the ferricyanide solution and water. Then, take the negative (without washing) and place it directly into the second bath; simply tilt the tray a few times, remove the negative, wash it and examine. Generally if slight reduction is all that is needed this treatment is sufficient; if it is not, a second dip in the hypo, or perhaps a third, and a wash in the red pruinate liquid, will accomplish what is necessary. Then, after an hour's washing in the negative washing box, the plate is dried, and any after touching up is done with a brush and pencil.

I have found in practice that by using the solutions weak, with separate dippings, that the exact reduction can be obtained in a better way than by mixing the strong solutions.

THE SECRET OF SUCCESS

BY THOMAS DREIER

THE secret of success is not a secret. Nor is it something new. Nor is it something hard to secure. To become more successful, become more efficient. Do the little things better. So work that you will require less supervision. The least supervision is needed by the person who makes the fewest mistakes. Do what you can do and what you should do for the institution for which you are working, and do it in the right way, and the size of your income will take care of itself. Let your aim ever be to better the work you are doing. But remember always that you cannot better the work you are doing without bettering yourself. The thoughts that you think, the words that you speak, and the deeds you perform are making you either better or worse. Realize with Henley that you are the master of your fate and the captain of your soul. You can be what you will to be. Forget yourself in rendering service to others. If an employee, strive to make yourself of greater value to your employer. Look upon yourself as a manufacturer. Think of yourself as being in business for yourself. Regard yourself as a maker and seller of service, and ever bend your thought and your

energies toward the improvement of your product. The wise manufacturer never injures his machinery wilfully. Your body, your mind, your soul serve as your plant. Eat and drink only that which will nourish your body, entertain only those thoughts that will enrich your mind, and if you feed your body with the best physical food and your mind with the best mental food you will build up a service factory that will find its products in constant demand. The world is hungry for quality service. It wants to pay for it. It is paying for all it can get. The market is not crowded. There is a chance for you right now. There is a chance for you right where you are. The time to start is now. Your reward will take care of itself.

—*Printing Art.*

THE MISSES SELBY

Some Account of Their Work and Methods

BY ALFRED BISHOP HITCHINS

ONLY a few years ago the Misses Selby coming from London, opened their studio in New York; in a very short time their work found favor with the most critical of New York society and to-day they stand as a splendid example of what really artistic women may achieve in the field of professional photography. They both had a thoroughly sound training in the principal art schools of London and have applied this knowledge to the production of photograph lit and composed in the classical style of the portrait painter, their work has a singular charm and breadth, the masses of light and shade are beautifully handled to form an harmonious whole that is in every sense of the word a portrait, glowing with life and catching the individuality of the sitter. The illustrations we are privileged to reproduce are chosen from the everyday work of the studio.

One's impression on entering the Misses Selby's reception room is that one is in the home of an artist. The walls are covered with cream-colored linen in long panels that display the prints to the best advantage. A few choice pieces of antique furniture of the best periods and some rich Oriental rugs impart to the whole place an atmosphere of quiet dignity that is restful and satisfying. In the studio itself the same note is struck. Here are none of the usual glaring examples of photographic furniture, mixtures of all periods and characteristic of none, but just the appointments to be found in the room of a well-to-do woman of artistic temperament, surroundings well calculated to bring out the best in the sitter.

Personality is the keynote of this studio's success. Miss Lily Selby, who does all the operating herself, is a woman of great personal charm. At once you feel at home and responding to her wish to make a portrait of you and not a map of your features, and it is during a conversation of mutual interest that the exposures are made. You are handled with consummate skill without being aware of it.

Miss Selby's portraits of children are deservedly famous. Her little sitters feel

that she is in sympathy with them, forget they are being photographed and just look their happy natural selves.

No painted backgrounds are used; all exposures are made against a plain deep red cloth and a background in keeping with the lighting and subject is sketched in on the negative. The studio is built with a high slanting side light and comparatively little toplight, screened with two sets of white and opaque blinds, one set pulling downward and one up. Most of the portraits are made with a high side lighting and a local diffuser and reflector are used to secure the finer modeling.

As to the lenses used, for groups and full length, a 12-inch 4.5 Zeiss slightly stopped down finds favor. For heads a 16-inch 4.5 Goerz at open aperture, the plates used are Seed 27 and are dish developed with Eikonogen-Hydrokinone and a soft negative full of fine gradation is aimed at. All the work is printed in one or the other of the various grades of Platinotype, and practically no mounting is done. The prints are made on large paper with white edges and plate marked like an engraving, and all personally signed, the majority of the work is 8½ x 6½. Very little 7 x 5 work is asked for. Miss Lily Selby personally examines and passes every print. And only one quality of work is countenanced—"the best."

The business end of the work is looked after by a very capable receptionist who understands the display of specimens and the tactful handling of customers, and who is competent to advise on the little matters of dress, and, above all, to see that proofs are quickly and attractively got out and that prints are ready at the time promised.

In the keeping of accounts, the register of negatives and customers, the card index system is used. It saves time and labor, and any information desired can be instantly found.

The Misses Selby have never found it necessary to advertise their studio in any other way than by the consistent excellence of their work. Although both the artistic and business ends are looked after in a very thorough manner, they both feel that apart from the purely commercial aspect that it is necessary to have a sustained interest and love for their work, to be always trying to do better, and never to be too proud to learn and profit by the experience of others. They both think that photography is deserving of being called a profession and merits the seeking of knowledge and improvements in practice that a doctor or lawyer would bring to bear on his work.

A WIDE-ANGLE DIFFICULTY

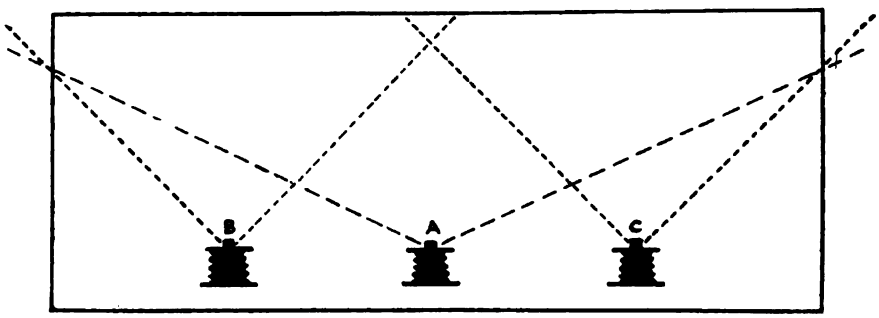
BY W. L. F. WASTELL, F.R.P.S.

THE live all-round professional photographer is so accustomed to being given hard nuts to crack that he seldom confesses himself beaten. Difficulties are things to be overcome. They are all in the day's work. At the same time it behooves him to be fully primed beforehand with as many ready-made solutions as possible of problems that are likely to present themselves in his varied work.

The little dodge to be noted here is not a new one. Advantage has been taken of it at times and often with conspicuous success. At the same time it is not resorted to as often as it might be, nor are its many variations and applications sufficiently considered.

Let us consider, as a type, a simple and familiar case. It is required to photograph a long narrow room in such a way

as to show the complete range of one of the long sides, including the adjacent parts of the two shorter walls. The obvious method is to place the camera at the middle of the other longer wall, and as close to it as possible and see what can be done on a large plate by means of a lens including a very wide angle. The position of the camera is shown at A in the diagram. The fact that great expanses of floor and ceiling will be also included is of little importance, because in the nature of things the subject will be rendered as a long narrow panel and the unnecessary parts can be trimmed away. The trouble is that no lens may be available to include the complete subject, and if it is, the inevitable result will be exaggerated and unpleasant perspective.



An artist or draughtsman in such a case would mentally remove the wall against which the photographer is placed and render his subject as if seen from farther away. But what is the photographer to do? He is tied down to practicabilities.

Another glance at the diagram will show that he can solve the problem by taking two photographs, one with the camera at B and the other with it at C. There should be a reasonable amount of overlap at the middle of the long wall, and care must be taken that in both positions the camera is exactly the same distance from the wall and the axis of the lens truly at right angles with it.

From the two negatives thus secured a pair of prints is made, carefully matched in density and color. A fine matte bromide, or a semi-glossy variety, will be found as suitable for the purpose as anything. The two prints are mounted to make the required continuous view and a new negative is produced from this.

There are two methods of joining up the prints so that the junction will be invisible, although a small amount of retouching work on the composite print may be necessary. The first method is to overlap one print on the other, first rubbing down the paper at the back of the overlap with fine glass-paper so that it is too thin to show a ridge. The second method is to make a butt joint by trimming each of the edges to be joined along well-defined lines made by pictures, doors, windows, furniture, etc.

Such is the simple method of meeting what is often a most awkward difficulty. It is obvious that it can be extended by making three prints instead of two. Also that it applies equally to exterior views which have to be taken at close quarters. Further, it can be used in photographing extremely high buildings when it is possible, as it often is, to make two or more views from different levels of an opposite building. The objection that the view thus composed will not be strictly accurate in drawing is not worth consideration; carefully managed, the results are far more natural and pleasing than those obtained by over-straining the angle of view with a lens of abnormal inclusive powers.

As regards the joining up of bromide prints to make a composite for re-photographing, this plan has enormous possibilities in landscape, etc. Sky, middle distance and foreground may be produced separately and welded into one harmonious whole. A few experiments will demonstrate the ability of using more than one negative to produce a desired result.

HOW TO GET WARM TONES

BY LEONARD KEENE HIRSHBERG

WARM tones in platinum prints are partially obtained in various ways. Many substances have been proposed from time to time as additions to the developer in order to vary the color of the platinum prints. The one rather widely used is corrosive sublimate—bichloride of mercury—since by its employment, together with variations in the temperature of the developer, tones ranging from warm black to sepia are easily to be obtained.

A great variety of formulae for use in the production of these tones have been recommended, but the following is, according to the authority of Mr. Edgar Senior, possibly the best so far in use:

Mercuric chloride	3 grains
Potassium oxalate	48 grains
Potassium phosphate	48 grains
Water	1 ounce

The temperature, he says, at which the prints are developed, ranges from 65 degrees to 170 degrees Fahrenheit, according to your wishes for a warm black or a sepia tone. When warm tones are obtained the gradation is usually much softer than that of a black print from the same negative. Hence there is in many cases a tendency to great flatness. When this is so, the results may be improved by the addition of about five minims of a two per cent. solution of potassium bichromate to each ounce of developer.

Since, however, special papers are made by the Platinotype company and others to obtain sepia prints, that should be used. Of course, special care must be obtained to protect them from the action of weak light during the examination of the printing. As these prints, unlike the black ones, are very apt to be affected by light when in the acid baths a more subdued sort of illumination should be employed also during this stage of the process.

To know every detail, to gain an insight into each secret, to learn every method, to secure every kind of skill, are the prime necessities of success in any art, craft, or trade. No time is too long, no study too hard, no discipline too severe for the attainment of complete familiarity with one's work and complete ease and skill in the doing of it. As a man values his working life, he must be willing to pay the highest price of success in it,—the price which severe training exacts.

—*Hamilton Wright Mabie.*

UP AND DOWN FIFTH AVENUE

BY HARRY H. BRODINE

THE purpose of this article is to give photographers outside of New York City an idea of the manner in which the photographers on Fifth Avenue display their work, and also the present trend of the styles.

The procession of photographic studios extends from 28th Street to 58th Street, approximately one and one-half miles. There are thirty studios, averaging one to each block. Several of these photographers have gained large reputations, and among them are such men as Dudley Hoyt, Pirie MacDonald, E. B. Core and Henry Havelock Pierce.

Starting at 58th Street and Fifth Avenue, one immediately sees Dudley Hoyt's two large gilt-lettered signs on top of the building he occupies. They are probably the most conspicuous signs of their type in New York and are readily seen by everyone within three or four blocks, as they face the open square opposite Central Park. This is a very fashionable neighborhood; the Hotel Plaza, Savoy and Netherlands being very near by, and directly opposite is the Vanderbilt mansion. Hoyt shows only one print in black and white with oval shaped tinted borders. It is of a young lady and is framed with a quarter inch thick gold matt, making a very striking effect.

A few doors below Hoyt, we come to the case of Henry Havelock Pierce, who has been chosen as official photographer to the Panama-Pacific Exposition, 1915 —according to the framed certificate of

appointment—as official photographer of this exposition; he was chosen because of his recognized ability and the excellence of his portraiture. This is quite an honor for any photographer to receive, especially in a case like this, when it applies to the photographing of children to be exhibited in "The Temple of Childhood." Several of the studios on Fifth Avenue have closed for the season, as Pierce has done, which must speak well for the volume of business and prices that are obtained. Most of the photographs shown by Pierce are of children, in sepia tones, with a few colored prints among them. His show window has no other equal on Fifth Avenue, as it occupies the complete front of a modern business building. Many of the prints are laid flat just as any other ordinary commodity might be and several are hung on green burlap which excludes any view of the interior. There is hardly any chance of photographers getting further up Fifth Avenue than Pierce or Hoyt as they are very close to Central Park, and beyond that it is very unlikely for any business to encroach.

Opposite St. Patrick's Cathedral, we come to the case of W. Burden Stage, who shows two impressive studies of children in black and white, nicely passepartouted. Prints when neatly passepartouted have a certain charm of their own and present a cheap and effective way of showing prints. Too many times we see pictures made to fit the frame and not the frame to fit the print, as should be the case.

Next to Stage's case we find those of The Misses Selby, who were formerly near 30th Street on Fifth Avenue. Even photographers, it seems, have found it necessary to move further up Fifth Avenue, as almost every other business has. They show excellent platinum prints in sepia, with tinted borders, finished off with a plate sunk effect. I think they are more successful in photographing women and children than they are in photographing men.

In only one case on Fifth Avenue are commercial photographs of any nature displayed, and that is by Frances Benjamin Johnson and Mattie Edward Hewitt, whose studio is in the same building as The Misses Selby. They show eight large-size prints in sepia of architectural subjects and interiors. In my opinion there should be quite a demand for such work among the wealthy people, who have beautiful homes and grounds.

In the Scribner Building at 597 Fifth Avenue, we find the modest show case of Davis and Sanford Co. They show only one print, which is in red chalk carbon framed in antique gold and red-brown. It is a very excellent portrait of a man, but exception might be taken to the color. Fifth Avenue photographers are becoming more inclined to the smaller show case and less lavish display of prints, although there are a few exceptions such as Marceau, who shows two large cases of photographs each measuring about seven by ten feet. Quality not quantity

seems to be the watchword of the majority on "The Avenue."

At 47th Street Alman & Co. display several creditable black and white prints and also excellent copies of Daguerreotypes, which have proved to be a money making field for one photographer in particular. It seems more advisable to make prints in sepia from copies of Daguerreotypes, as the effect is softer than when printed in black and white.

The studio of Curtis Bell is at 588 Fifth Avenue. He shows an excellent portrait in sepia of John W. Alexander, the noted portrait painter. Most of his prints are in sepia platinum on cream-colored mounts which harmonize well. He also does quite a good deal of home portraiture and is an expert at interior photography.

Hollinger & Co., at 582 Fifth Avenue, make a specialty of copying. Their little announcement quite explains all of the details.

"Daguerreotypes and other old pictures reproduced and enlarged by a new method which preserves all the quaintness and charm of the original and adds the modern style of finish, thus producing wonderfully artistic and picturesque effects. We also restore Daguerreotypes to their original clearness."

Hollinger & Co.
582 Fifth Avenue.

Hollinger has achieved quite a reputation as an expert on copying, which the display of his work ably show. Most of his copies are printed in sepia on what seems to be a platinum paper, while several are hand-colored very tastefully. He is said to receive very high prices for this work and there is no doubt but that he is not overpaid at that.

On the southwest corner of 47th Street one may see Pirie MacDonald's two cases displayed on either side of the doorway. Each case contains a large panel bust of a prominent man done in sepia bromide. One print is of Sir Ernest Shackleton, the explorer, and the other is of Norman Hapgood. Above the case is the legend, "Photographer of Men." Probably MacDonald has as great a reputation as any American photographer.

Right next door to MacDonald we find Aime Dupont's studio. Dupont at one time was photographer to the Metropolitan Opera House, but this work is now done by the Mishkin Studio. An amusing story is told of Dupont, who is now of the past. He had photographed a beautiful woman and obtained some excellent photographs of her. A short time later a friend of the woman desired her photograph taken and received her proofs, which she did not approve of. Dupont made a resitting and still the customer was not satisfied, saying they were not at all like her friend's pictures. At this Dupont's patience having been sorely tried, exclaimed, "Ah, Madame, I cannot make chicken fricassee out of beef!" The above goes to show that even a photographer's patience can be stretched too far and that to be a Fifth Avenue man requires more than mere photographic ability. Sepia prints on green and gold mounts do not harmonize very well and Dupont would do better without them. Fantastically tinted mounts should be tabooed by all earnest photographers.

E. B. CORE, PHOTOGRAPHER OF CHILDREN.

Such is the inscription on Core's show case, and he has indeed an admirable collection of child studies. His studio is next door to Dupont's, which makes three photographers next door to each other and all apparently doing a good business. As I said before, Core's prints are excellent and one composite print especially. Most of Core's prints are in black and white with white background, and his home portraits of children are very happily composed.

Histed, at 569 Fifth Avenue, shows two large sepia prints, plate sunk with tinted borders. They are about 10 x 12 inches, with wide white margins; one of them being of Mr. Oliver Harriman. It seems a good plan when a prominent customer does not object to display his or her portrait.

Koshiba, the Japanese photographer, has a unique show case which, sad to say, he had to move to the side street on account of the widening of Fifth Avenue

ILLUSTRATING "UP AND DOWN FIFTH AVENUE"

and the necessity for removing all encroachments extending beyond the building line. This, in a way, materially improved the "Avenue" but undoubtedly affected the display of a great many photographers. Koshiba's work is very good, especially his portraits of women. There is only one other Japanese photographer on Fifth Avenue of any note.

Haas displays his work in the same building as Koshiba, which at one time sheltered three photographers. He shows a print of Julius Harburger, Sheriff of New York County.

E. Brunel displays a lot of low-priced work, setting forth the price, and also states that photographs can be finished in twenty-four hours for out-of-town visitors. He does not attempt high art portraiture and is very unlike most photographers in his style of work. He uses linen stock for most of his prints, which appear real well.

Mishkin photographs most of the operatic stars and shows one of his many photographs of Caruso and also one of Lina Cavalieri. Most of his prints also, are in sepia which seems to go real well with customers. He has a fine location directly opposite the New York Public Library. Mishkin and Marceau are the only photographers on Fifth Avenue showing prints made with border negatives resembling those used on engravings and etchings. I do not think that they are any real advantage, however.

The Polychromide Studios are color photographers, and their work is excellent. They are made by the three color carbon process and, needless to say, sell at a high price. As usual, the blue predominates in almost all of the prints, but to the public this probably is not so very apparent.

There are several other prominent photographers below 37th St., namely, Bradley, Foley, Gessford and the Fifth Avenue Studio. Gessford shows a print of the late Frank Black, a former governor of New York, and also a print of Governor Sulzer. The latter has his very characteristic shock of hair hanging about his forehead.

At 32nd St. stands Mrs. Kasebier's case. She shows but one effective print, which is all her case will contain.

At the end of "Photographers' Lane" we find the elaborate displays of Marceau's. On one side are home portraits, some of which suffer from too short focus lenses, and on the other, photographs of famous persons, such as Pres. Wilson, Governor Sulzer and the Maderos of Mexico. On the whole, Marceau's display is excellent, all of the prints being in sepia, ranging in size from 8 x 10 to 16 x 20.

In conclusion it might be advisable to remark that sepia prints are in great demand and that, as stated before, quality and not quantity should be very deeply considered.

The accompanying photographs are reproduced to give a more thorough idea of what is to the photographer of New York the latest thing in photographic display.

Remedy Toned Bromides.—All makers of toned bromide prints and enlargements have at times to work from flat, thin and indifferent negatives. When the batch is finished one finds that prints fall into several classes—namely, those requiring intensification, those of muddy color, and others with a yellowish tint or scum over the high lights. In the case of the two latter I have found that the following process proves of very considerable benefit. After toning with the sulphide I immerse the prints in a weak solution of iodine in iodide, afterwards putting them straight into the hypo bath to clear away the blue stain. The prints are then well washed. This method proves most satisfactory in use, and I have improved, cleared and saved many a print by adopting it. In the case of prints toned with hypo-alum it is necessary to wash well before and after iodizing. This may be an old dodge to some workers, but I cannot recollect ever having seen it published.

REGARDING EXCLUSIVE PICTURES

BY CHARLES F. OURSLER

WHEN a photographer secures a print, or series of prints, of general or special interest, exclusively, and understands how to capitalize that good fortune, he should be able to make it quite profitable. True it is, these occasions are not numerous but by a man whose veins and wits are alive they can be vastly increased. To show how these opportunities may be manufactured and then how to exploit them to the greatest advantage shall concern us here.

Most towns of any appreciable size and importance boast of entertaining at least one convention a year. Generally there are several. It may be the Hardware Men's Association; it may be the Railroad Telegraphers; it may be any one of the innumerable organizations of trades, industries and professions which abound in the United States and Canada. Whatever it is, a certain interest attaches to it, and it is this interest which the photographer shall transmute into checks and currency.

For example, let us suppose a national association of grocers is to meet in a certain city next year. What publications will be interested in that? Because it will bring a number of visitors into town, stimulate trade growth and help advertise the community, the daily papers will publish much of its proceedings and will be glad to run pictures every day of the meeting. Then the *Modern Grocer* and the *Retailer's Journal,* in Chicago; *The American Grocer* in New York, and about fifty other publications listed in the American Writer's Year Book will be interested in photographs.

There is the opportunity, but the photographer must be on the job months before the convention is held, if he would make the most of it. His first business should be to see the chairman of the local committee on arrangements and try to secure photographic rights for the gathering. No doubts must be left that these rights shall be exclusive. Without them much cannot be accomplished, and the prices to the convention members would be made as low as they possibly can, legitimately, for on having the only pictures of the convention the highest success depends.

These rights secured, steps must be taken to insure protection. It should be stipulated that the doorkeeper allow no one to enter the hall with a camera but the photographer or his assistants, who will be furnished means of identification.

With such assurances the photographer is well equipped. He should not delay in calling on the managing editor of each paper in town, explaining that he has secured the exclusive rights for the convention; that newspaper picture men will be excluded from the hall and that he is ready to make arrangements for serving them at once. The editors will not kick, for it saves men in their employ for more important work and secures them desirable pictures at the same time.

Then letters are to be written to the editors of all the trade papers interested in the convention, submitting them the same proposition. Make it clear to them that if they do not take the service thus offered them, they will not get any at all, as an exclusive franchise has been obtained. This, of course, should be expressed diplomatically but clearly. In a majority of cases replies will be received requesting three or four prints on approval. These should sell for $2 each at the very lowest.

Which, when totalled up, you see, should be quite a lucrative undertaking.

WHAT IS A PHOTOGRAPH GALLERY WORTH?

FIRST take an inventory and ascertain just what your gallery cost or the amount of money invested. Next ascertain your receipts for a year, charge up to yourself whatever salary you are worth, deduct this, and the interest on your money invested from your receipts, after you have paid all bills, and the result will be the net profit. It is from this profit that you can figure the value of your studio. If the studio shows no profit after the bills, your salary and the interest on the investment are paid, then your studio is worth less than your inventory. In fact, it is only worth what you can get in the market for your second hand goods. You have nothing else to sell.

A person desiring to purchase a studio does not care anything about your receipts or expenditures any more than to find out through these what profit you have made. If you can show a profit, there are hundreds ready and willing to buy your studio. If you can't show a profit, the chances are it will be a losing game to the next man.

Of course, in selling or buying a studio you must take into consideration the rent, length of lease, etc., but you can rest assured that the landlord is getting all the building is worth, for rent, every time, but your studio may be so located that the lease may become valuable before it expires.

We recently received a letter from a customer who was desirous of buying a studio and paying cash for the same. He had visited some half a dozen studios that were advertised. He knows what a studio is worth, and he had taken, in each case, as near as he could, an inventory of the contents, and in every case, the proprietor who wanted to sell, asked more money than he could go out and buy the entire outfit new from any stock house, and in every case the studio was doing business at a loss each year.

We have found, after many years of experience in advertising studios, that the man who has got something to sell can always sell it at the right price, but he wants to be able to show to his prospective customer the profit in the business.—*Ohio Photo News.*

Water in which a trace of potassium permanganate has been dissolved, so as to give it a slight pink color, will serve as a hypo eliminator. It must not be too strong or it will stain the prints, and must be changed until they can be left in it for three or four minutes without the color being discharged. They may then be rinsed in two or three changes of water and dried. We may say, however, that we do not believe that there is any hypo eliminator which actually economizes water. Surprisingly little water is needed to wash prints properly, if they are well drained between each change, and it has yet to be shown that the decomposition products of hypo are not quite as injurious in the print as the hypo itself, if not more so. If you value your reputation as a producer of permanent prints we should advise you to put up with the work, or, if you cannot, to be satisfied with a less thorough washing.

BY THE MISSES SELBY, N. Y.

ILLUSTRATING MR. HITCHINS' ARTICLE

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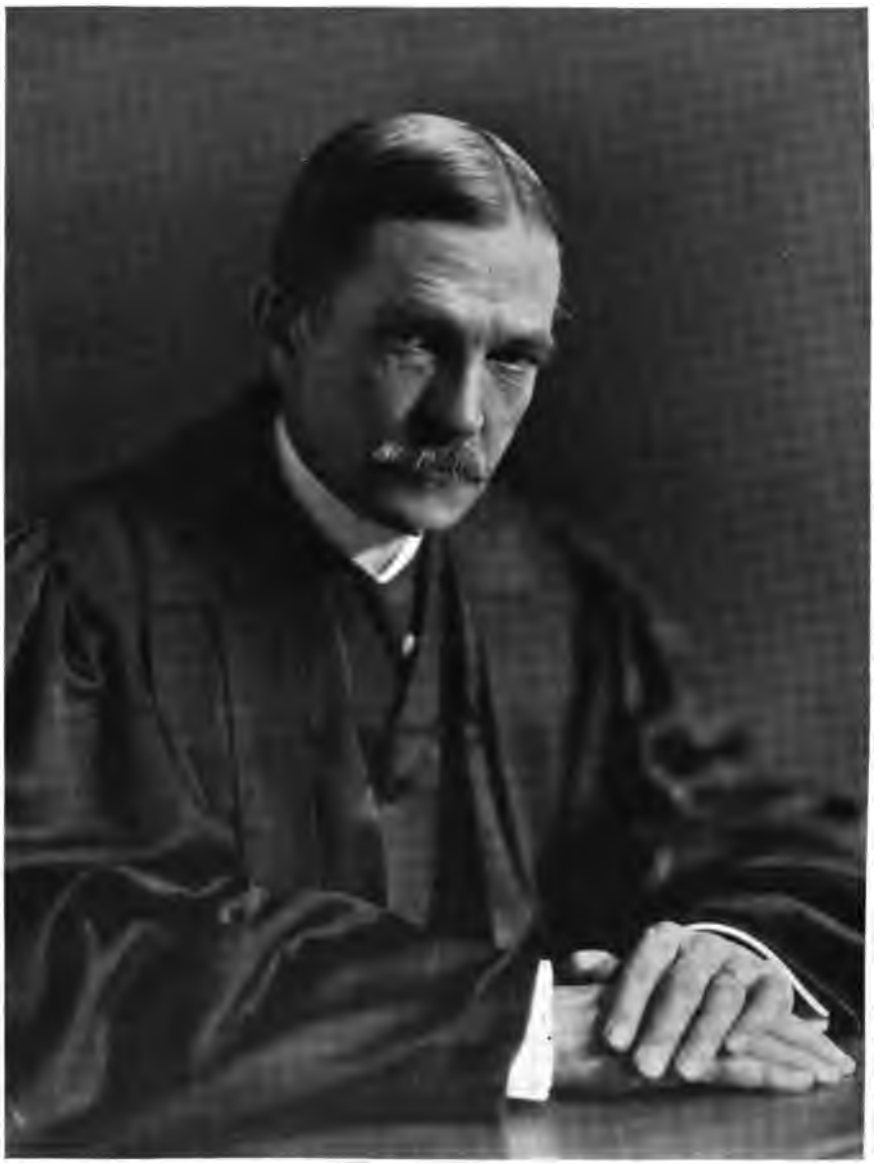


RT. REV. DAVID H. GREER, D.D., L.L.D., BISHOP OF NEW YORK

BY THE MISSES SELBY, N. Y.

ILLUSTRATING MR. HITCHINS' ARTICLE

SEE "UP AND DOWN FIFTH AVENUE"

SEE "UP AND DOWN FIFTH AVENUE"

RECEPTION ROOM - THE MISSES SELBY, N. Y.

BY FRANCES B. JOHNSTON—MATTIE E. HEWITT

CINEMATOGRAPHY FOR THE LOCAL PHOTOGRAPHER

THE ARGUMENT

BY ALFRED H. SAUNDERS

SHOULD the local photographer take up cinematography as a side line? This question is being propounded by many in the profession, and they not having data at hand, let it go unanswered for the time being, at the same time there is a lurking desire to venture into the unknown sphere of operations. The question of cost of apparatus rises in their minds, and it is well known the majority of photographers in small towns have no large funds to speculate on a problematic source of income to be derived from a first outlay of $400 or $500. It is to show how the venture may prove profitable that this argument is put forth. The possibilities of the enterprising photographer making a success are very large, providing he is willing to make a little sacrifice at the first outset, and expend a few dollars in the experiments he will make in his neighborhood. Every photographer who understands light and exposure in his business, can, with a certain amount of energy and the use of his mentality, become an able cinematographer. Why should he take up this new branch? I'm from Missouri, you have got to show me, is the general cry. Well, those in Missouri are not the shrewdest of folk, as can easily be shown. It is spoken of in Kansas City that the city fathers spent varying sums, some say five, some ten, and some, twelve thousand dollars in getting the police force, the firemen, the local streets, etc., etc., cinematographed by one of the peripatetic folk, who claimed to make a specialty of this work and who promised great things. Among others, that these pictures should be exhibited all over the world. The net result was that the local shows exhibited these films—and—that was all. New York or any other large city did not see how Kansas City drilled its police, and further, they did not care. Now if some of the local men had been wise, this amount could have been theirs for the asking, and the same exhibition results obtained. Three thousand feet of negative stock cost $120.00. Three thousand feet of positive (including developing of both negative and positive) cost $150.00, total $270.00 plus $10.00 per day for the operator and his railroad and hotel fees from, say, Chicago, another $100.00, gives a cost of $370.00; let this be made $400.00 to be on the safe side, and the total profit on the lowest estimate is just $4,600! Now, Mr. Photographer of Kansas City, would you not like to have this little nest egg for your winter hibernizing when trade is slack?

This is only one instance of many that I could quote, in which so-called industrial and educational film companies have been doing business in the past four or five years. When the negatives are taken and one positive delivered that is all there is to the transaction.

Leaving this, and getting down to hard facts: every photographer is called upon, some time or other, to photograph garden parties, christening ceremonies, wedding parties, receptions, and so on ad infinitum. Why not cinematograph them? The cost is not very much larger, and a historical record would be the result, and could be shown years after. In the

summer months, instead of weddings and christenings taking place in the rooms of the house, an al fresco arrangement could be made on the lawn and the full ceremonies cinematographed.

Have you a manufacturing plant in your town? The workmen, women, boys and girls, coming out at lunch time might be taken and exhibited in the local theatre. A profitable arrangement, as past experience shows.

Is there a stone laying of a church, Masonic, Elk, Moose or other lodge meeting hall going on? Why not you be the man to take them? A Masonic funeral or Knight Templar, might be recorded, so on with all the other fraternal orders, and if you are a member of one or more, who is better qualified to receive the commission than yourself? Perhaps an opportunity arises where you are asked to photograph horses for their owners. A still picture is very beautiful, a cinematograph film is more beautiful, showing in life action the curves of the horses, their leaping qualities, and probably a coursing or hunting party may be taken on a few hundred feet of film, exhibiting the prowess of the ladies and gentlemen on their thoroughbreds. What a "scoop" for the local photographer. To the photographer in the college town what vast possibilities open up for the use of the cinematograph camera. The students in all their athletic sports, their processions, their boat races, their football matches, and other ball games, or the commencement exercises; even the students on the campus on an ordinary class day affords an excellent opportunity.

The county fair, industrial exhibit, the drilling of the National Guard, and the local scenic beauties, such as waterfalls, etc., all these and the 101 other things can be used to great advantage.

Among other events, some might be of national importance and only the man on the spot can get them, such as floods, mining accidents or other calamities which would be purchased by the manufacturers of the illustrated weeklies (Pathé, Gaumont, and others).

The veterans are dropping off one by one, like leaves from the trees in autumn; soon their tales of the hardships they had to pass through will be heard no more; their faces, now so familiar in our midst, will vanish and pass to that bourne from whence no veteran returns. Next Decoration Day's parade they might be caught by the camera and future generations see how proudly they marched, in spite of advancing years and infirmities.

Another point to be mentioned, is that of the educational film: here the local photographer may be of great assistance. Agricultural pictures are needed to educate the students, starting with ploughing, then sowing, reaping, and so on to the end of the operation. Grinding wheat to flour, even the making of the bread might be shown. Dairying—bringing home the cows, milking, separating the cream, churning the butter, sending to market milk and butter. Poultry farming—the eggs, the chickens, the fowl, and so on. Bee culture in all its branches. Birds, their haunts and habits, nests, etc.

The photographer may be near mines, ironworks, claypits and brick making. Glassworks and many others that would prove of educational value in the school curriculum, from the kindergarten up. Many other subjects will easily suggest themselves to the live, wide-awake photographer who has time and opportunity to cope with them. The fringe has only been touched up to the present, and if proper methods are adopted, the seed sown will surely bring forth an abundant harvest.

Having now presented the argument, it may be left to the discussion of the reader in his own mind, it may appeal to the many, or only the few. If it has caused sufficient interest to be taken, other articles will follow dealing with cameras and their cost. How to use them, photographing the object, development and formulæ, printing the positive, projection, and sources for sale of negatives.

TELEGRAPHIC TRANSMISSION OF PHOTOGRAPHS

THIS invention relates to telegraphic photography, and more particularly to a system by which the electrical and optical operation are effected separately at different places.

In the systems hitherto proposed for the telegraphic transmission of photographs, it is usual to perform the optical and electrical operations in one apparatus. Obviously this manner of operation has many serious drawbacks and disadvantages. The operator must be skilled in the optical as well as in the electrical operations, so that an ordinary telegraphist is not able to perform all the operations. Moreover, as the photographic exposure and the electric transmission are usually combined, the telegraphic line is occupied for a considerable time. This obviously causes expense, which tends to prevent the practical adoption of telegraphic photography.

According to the invention the photographic exposure is done separately, and the apparatus used for it is of such a nature that it produces a wire magnetized corresponding to the photograph.

This apparatus is the "optical receiving station."

The magnetized wire is then removed from the optical receiving station and brought to the telegraphic transmitting station.

The apparatus used in the electric transmitting station is of a similar nature to the well-known Poulsen apparatus for transmitting speech telephonically, that is to say, in this station a wire is caused to travel in front of the poles of an electromagnet, in which it induces a current of strength corresponding to the variations of magnetism in the magnetized wire. This varying current is transmitted over the line to the third station, viz.: the electrical receiving station. In this station the induced currents traverse an induction coil with a magnetic core. The magnetism excited in the core is transmitted to a wire moving in proximity to the face of the pole of the magnet. The result is a second magnetized wire, the magnetism of which corresponds to the magnetism of the first wire, the variations being exactly reproduced. Then the magnetized wire is removed from the third station, that is to say, from the electrical receiving station, and is brought to the optical transforming station, which transforms the variations of magnetism into corresponding variations of light by any of the known methods.

It is evident that by the new system two advantages are obtained, viz:—

(1) The optical operations are absolutely separate from the electrical ones, so that in the telegraphic station the ordinary telegraphist will be able to perform the service.

(2) The second advantage is that the magnetized wire can be made to travel in front of the poles of the electromagnets at a speed which is independent of the optical operations. It may run at a very high speed with the result that the electric station and the electric line are occupied for a relatively short time.

WHEEL trimmers can be sharpened by running a groove in a piece of soft wood, filling this with fine emery powder and then running the wheel-trimmer backwards and forwards in this emery-lined groove. The groove is made by placing a thin straight edge along the wood and running the wheel along this until the cut is wide enough to take the emery powder.

TRANSLATIONS AND ABSTRACTS

BY E. J. WALL, F.R.P.S.

Black Varnish for Wood

To obtain a good black dead varnish for wood the following method is recommended. The wood should be first thoroughly smoothed and then the pores filled with the following:

Starch	30 g.
Barium sulphate	25 g.
Linseed oil varnish	50 ccs.
Turpentine	15 ccs.

Mix thoroughly and apply with a stiff brush and as soon as the surface appears surface-dry wipe off excess with a dry cloth. If this is applied at night it will be possible to apply the varnish the next morning.

Heat together:

Shellac	95 g.
Borax	22 g.
Water	500 ccs.
Glycerine	10 ccs.

Boil till the shellac is dissolved and make the total bulk measure 500 ccs., then add

Aniline black	90-140 g.

and stir into a homogeneous mass. The more black added the more matt the surface.—*Phot. Ind.*, 1913, p. 1062.

For dark room or laboratory benches there is nothing better in my experience than the following:

Cupric chloride	15 g.
Potassium bichromate	15 g.
Hot water	100 ccs.

Paint the wood over with this and allow to thoroughly dry and then apply

Aniline Hydrochloride	10 g.
Water	100 ccs.

Allow to dry. Wipe off any yellow powder that forms and repeat the process till black enough and finally give a rub with boiled linseed oil. The aniline black is thus formed in the wood and the stain is acid, alkali and water-proof.

Another Color Process

Rudolf Fischer of Berlin has just patented a peculiar color process. The usual tricolor negatives are obtained and transparency plates exposed under the same and developed with such agents as will give the required colors direct, for instance one is developed with a plain (without sulphite) pyro solution which gives a yellow image, another developed with thioindoxyl carbonic acid in acetone and water, which gives the red image and the blue is obtained by using indoxyl carbonic acid. It is also proposed to use this for screen plates and the particular developers are also to be mixed with three separate emulsions and a mixture of these coated on glass, or they may be coated one on top of the other and on exposure through suitable screens and development a picture in colors will result.—*E. P.*, 15055, 1912.

The use of indoxyl and thioindoxyl for obtaining colored images was first tried by Homolka of the Hoechst Dye Works in 1907 (Phot. Korr., 1907, pp. 55, 155), and the idea of obtaining different colors by the incorporation of colors with emulsions was suggested as a theoretical possibility by Sforza (Phot. des Couleurs, 1911, p. 209) and R. Luther (Phot. Rund., 1911, p. 1).

Photographing Finger Prints, etc., on Convex Surfaces

Dr. E. Stockis, a well-known authority on the application of photography to criminal investigations, suggests that when it is required to photograph finger prints on a curved surface such as a bottle, curved celluloid films should be used, thus enabling one to obtain a sharp image of all the impressions, which it is impossible to do with a flat plate in consequence of the want of depth of field of the lens. He uses cylindrical blocks of wood in a camera back and supports his films therein. He uses a photo-micro lens of 35 m/m focus.—*Archiv. Int. de Méd. Légale, through B. J.*, 1913, p. 626.

Chloranol

Under this name Lumière and Seyewetz have patented a combination of chlorhydroquinone and methyl paramidophenol sulphate (metol), to which they ascribe the formula:

$C_6 H_3 Cl. O. H. O. H. + 2 (C_6 H_4 O. H. N. H. (CH)_3$

It is made by mixing aqueous solution of two molecules of the sulphate of methylparamidophenol with one molecule of chlorhydroquinone and then adding sodium sulphite. It crystalizes in glistening spangles, soluble 2 per cent. in water at 65 degrees Fahr., very soluble in alcohol and acetone, and slightly soluble in ether and benzole. The aqueous solution is remarkably resistant to oxidation by the air and with sulphite will keep well even in uncorked bottles. It will develop in a plain aqueous solution, though slowly, but

much more rapidly with sulphite, and with even small quantities of an alkali a very energetic developer is obtained, which gives good contrasts with great freedom from fog.

The formulæ suggested are:

For Portraits

Chloranol	5 g.	35 grains
Sodium sulphite (anhydrous)	30 g.	210 grains
Water	1000 ccs.	16 fld. oz.

For Normally Exposed Negatives

Chloranol	5 g.	35 grains
Sodium sulphite (anhydrous)	30 g.	210 grains
Sodium Carbonate "	5 g.	35 grains
Potass. bromide 10% sol...	10 ccs.	70 mims.
Water	1000 ccs.	16 fld. oz.

In this formula the carbonate may be replaced by 10 ccs. (170 minims) of actone.—*B. J.*, 1913, p. 604.

These well known experimenters showed previously (Bull Soc. Franc, 1889, p. 135 and 1903, p. 23) that because of the acid nature of hydroquinone it would combine with developers of a basic nature such as paraphenylene diamine and methlparamidophenol and their metoquinone is a combination of the latter with hydroquinone.

Soft Effects

Hans Schmidt of the C. P. Goerz testing laboratory reviews the various methods for obtaining softness of definition in the camera and condemns the results obtained by introducing spherical and other aberrations into the lens and all other mechanical methods such as shaking the lens or camera and so on. And he recommends a method which is a veritable Columbus' egg. It requires practically no prolongation of the exposure, no alteration of focus, no coma nor spherical aberration and it softens down the sharpness in the sharpest places without increasing that in the shadows. No new lens nor apparatus is required, only a sheet of fine ground glass, preferably about one millimeter (1/25th inch) thick is placed in the dark slide with the matt surface facing the lens. Greater softness can be obtained by placing strips of cardboard between the sensitive surface and the ground glass.—*Phot. Korr.*, 1913, p. 356.

The Verikol Lamp

Siemens and Halske, the well-known electrical firm of Berlin, have just introduced under the above name, which, of course, means "true-color," a tungsten lamp which has a pale blue bulb of 120 m/m. diameter, probably a copper oxide glass, which reduces the colors between wave length 420 and 620 to the same value as daylight, so that all colors appear much truer than with the ordinary lamp. Dr. Ritter von Schrott of Vienna states that it is the best electric light for exhibiting autochromes.—*Phot. Korr.*, 1913, p. 359.

Fluorine Glasses

Dr. E. Zschimmer has succeeded at last in making a whole series of glasses containing fluorine and they will shortly be placed on the market by Schott and Genossen of Jena. Up to the present fluorine compounds have been practically only used for making enamel and opal glasses, as any quantity of fluorine produced striae, stones and bubbles in a glass flux. The mean refractive index μ of these glasses for the sodium line is 1.45 and the reciprocal of the relative dispersion or $v = 70$. For ordinary crown glass these constants are $\mu = 1.52$ and $v = 59$. Flourite, the native crystalline fluoride of calcium, has U = 1.43 and $v = 95$-97, and pieces of this sufficiently large for optical work are almost unknown, and even for small lenses as are used in micro objectives the supply is getting more and more limited—*Frankfurt. Runschau*, 1913, p. 629.

Exactly what this achievement will mean in lens construction is on the laps of the Gods. It is, however, as great a feat as the construction of the Jena glasses to which we owe the modern anastigmat. It is interesting to note that quartz glass can be exactly duplicated by the new fluorine glasses, and it is quite possible that we may see in a few years Abbe's dream of anastigmats working at F. 1 and F. 2 as common as the present lenses working at F. 4.

After Sensitizing of Autochrome Plates

Baron von Hübl recommends the following bath for sensitizing autochrome plates. Three stock solutions of pinacyanol 1:5000 alcohol, pinachrome 1:1000, and pinaverdol 1:1000 are required and these must be kept in the dark. A still more dilute stock must be made the basis of which is:

Alcohol 90%	50 ccs.	840 minims
Ammonia	3 drops	3 drops
Distilled water	100 ccs.	3¼ oz.

To three separate lots of this add respectively:

(a) pinacyanol solution....	5 ccs.	84 minims
(b) pinachroma solution....	2 ccs.	34 minims
(c) pinaverdol solution....	2 ccs.	34 minims

And for sensitizing take:

a solution	10 ccs.	1 oz.
b solution	70 ccs.	7 oz.
c solution	70 ccs.	7 oz.

Bathe plates for five minutes and dry.

The color screen for these plates is:

Gelatine solution 10%....	32 ccs.	540 minims
Aesculin dry	0.1 g	1.54 grains
Filter yellow sol. 1:500...	3 ccs.	50 minims

To every square decimetre (=15.5 in.) allow 7 ccs. (=118 minims) of above solution. The increase in speed of the plate is approximately 4½ times.—*Wien. Mitt.*, 1913, pp. 2, 33.

For using the above plates with an arc lamp a filter containing:

Filter yellow dry.....	0.0011 g.
Toluidin blue	0.0028 g.
Gelatine sol.	32 ccs.

is required. For a Nernst lamp:

Toluidin blue	0.004 g.
Gelatine sol.	32 ccs.

Wien Mitt. 1913, p. 173.

Projecting Autochromes

Von Hübl points out that as all artificial lights are far too red and yellow for showing autochromes properly, as the screen elements are adjusted for daylight. It has been usual to use a light blue glass and he recommends the following:

Gelatine solution 6%.. 65 ccs. 1098 minims
Toluidin blue 1:500... 2-7 ccs. 34-118 minims
and coat 7 ccs. (=118 m) on every square decimeter (=15.5 in.). For incandescent electric and Nernst burners use the filters with the higher quantity; for arc and incandescent gas lights use the lower quantity of dye.—*Wien. Mitt.*, 1913, p. 293.

PHOTOGRAPHY IN GREAT BRITAIN

A Review of the Month from our own Correspondent

London, September.

To the amateur and professional photographic world in this country the annual exhibition of the Royal Photographic Society is regarded as the symbol of photographic excellence, and this year's show which opened last week can only serve to strengthen this impression. Open, as it is, to both professionals and amateurs throughout the world it is not surprising—despite the absence of pecuniary recognition—that a considerable amount of foreign work should find its way to the classes of the "Royal," and this year particularly is no exception.

The R. P. S. Exhibition

Personally, I should give precedure amongst the exhibits to a number of slightly impressionistic portraits of German celebrities by the well-known Continental workers, R. and M. Dührkoop. Especially notable in arrangement and lighting is a forceful head study of Busoni, the pianist. The famous, if more familar oil prints of that French master of the process, M. Robt. Demachy, appear by general consent to merit next attention, but there are also one or two very promising oil prints from M. Payo, another French worker who has written and lectured much on oil work. Madame J. E. Beunelt, although not strictly an American contributes several characteristically American genre studies and along with Miss R. Smith commands principal attention amongst the nude figure studies. Mr. Pirie MacDonald exhibits a fine portrait of Will H. Low, an American artist.

In the color transparency section, the autochrome, Dufay, and Paget processes dominate the entry list, especially the first mentioned. Medals have been awarded this year in this section and have been secured by Miss O. Eclis with a portrait study, Dr. E. A. Barton with a beautiful flower picture, and to Mr. L. J. Steele for a landscape. This section is admirably represented and the quality of the work very satisfactory throughout, but owing to the laxity of the color transparency in the United States as compared with England and France it would serve no practical purpose to detail the many entries.

To the professional photographer the scientific and technical section is perhaps the greatest attraction of the entire exhibition. Prints of the spectra of different metals, photographs on copper plates instead of paper, and a new process for the commercial production of these by sensitizing the copper base with chlorine were shown. Mr. A. E. Bawtree has on view several specimens of prints by the intaglio process by which is almost an impossibility to differentiate between a document reproduced and the original. The method exploited by a photographer now well known in America—Dr. C. E. K. Mees—for the perfection of color rendering in monochrome plates by means of light filters of varying density is demonstrated by Messrs. Wratten & Wainwright, while Mr. Ernest Marriage has secured a medal for his researches in the detection by photographic methods of adulteration in jams. A special exhibit set out for X-ray work and radiography is almost monopolized by M. Pierre Goby and Dr. B. Alexander, while in the photo-micrographic department Mr. J. M. Offord is the principal exhibitor.

The increasing popularity of the plastic processes (oil, gum, bromoil, etc.), is strongly evinced by this year's exhibition, no lower than 40 per cent. of the works exhibited being executed in these processes. Individually bromide comes first with 83 representatives. The others are: bromoil, 59; platinum, 57; oil, 39; gum, 24, and carbon, 18.

Sleepy Portraits

The London society woman has discovered a new way of having her portrait taken, and the early appearances of the show cases and windows of fashionable photographers in the Metropolis indicate that the new style might possibly create something of a furore, and

that not amongst women only. The new pose —described by a London paper in sensational style as the "sleepy" pose—consists in being taken with the eyes closed as if in sleep. Sleeping women, taken in ordinary attire as if in the midst of an afternoon nap are on view in many windows, but in some cases the idea is carried still further and women asleep on a couch in proper night attire attract the attention of a crowd in another case. The sleepy pose, however, seems to be at its best when employed in conjunction with children, and a photographer with an eye for effect should have no difficulty in evolving a series of charmingly natural and original studies of children asleep and without requiring any other furnishings beyond a quiet background, a rug, a couch, pillow, or cushion, and a few toys. The idea could also be extended to embrace the firelight effect described in my last communication.

Mr. A. E. Staley's Death

Most American professional photographers will regret to hear of the demise of Mr. A. E. Staley, last month, he being formerly the British agent for the Rochester Camera Co. until its amalgamation with the Eastman Kodak Co. Mr. Staley first made a name for himself in the photographic world through his pioneer work in introducing to this country French R.R. lenses and also with the enclosed shutter, and it was the enormous sale of this class of apparatus that helped to build up the house of Staley & Co., at Thavies Inn, London. Recently Mr. Staley had exercised charge of the London business of another American firm, the Bausch & Lomb Shutter Co.

Brilliant Tones by Development

The Sangar-Shepherd Co., who are the London agents for the Societe Anonyme Utocolor of Paris, announce a novel printing paper, the invention and property of the latter firm. The paper by development only gives brilliant red, blue, violet, brown, sepia, green, and black tones, according to the strength of the developer. Although I have not personally tested these claims I am informed by a worker who has that the results are most artistic and quite suitable for professional work.

Photography and Wireless

A student at Liverpool University sends me a description of new photographic apparatus which Sir Wm. Hartley has presented to the institution. This is a new photographic recording device for wireless signals. The instrument takes photographs automatically of the electric waves as they are received and daily records from Paris, New York, and other cities are being collected with the object of showing barometric pressure and meteorological conditions. The current through the detector is passed through a highly sensitive Einthoven galvanometer, consisting of a magnet between the poles of which is suspended a thin silvered quartz fibre along which the current travels. An enlarged shadow of the fibre is thrown on to the plate and as the latter moves the vibration of the fibre is recorded. It is well known that the problem of the varying strength of wireless signals has not been satisfactorily solved. For instance, there is a sudden intensification of wireless signals from America just after sunset and it is hoped that the new photographic attachment will throw more light upon this and other mysteries of wireless communication. A still more practical use has also been found for the photographic recorder which seems to forecast that the wireless operator of the future will have to know something about photography. It has been found at Liverpool that wireless messages can be received with greater rapidity by photographic reproduction of the wave than by the ordinary method.

Patented Solutions

Applications for patents have recently contained several specifications of solutions used in photography and the question whether it is fair to so rigorously prevent their free use has again arisen amongst photographers. As I write I have before me a specification of a single solution sulphide toner for which a patent is being applied. The formula of this is as follows, and unless it has been already patented in the U. S. A., I see no reason to prevent American readers using it:

Sulphurated potash .....120 grains
Water ..... 15 ozs.

Add to this solution:
Hyposulphite soda, saturated solution
.....1 fluid ounce
Water .....24 ozs.

The whole solution must be filtered through muslin and prints bathed in it after fixing until they reach the desired tone. They are then washed in the usual manner. Many professional photographers in Great Britain, particularly those seaside dealers who specialize in the cheaper work regularly employ a single solution toner which is often mixed with methylated spirit to effect rapid drying. A little practical experimenting with the above in this direction might repay the little trouble and expense involved.

Another patent specification I have before me describes an electrically controlled contrivance for releasing the camera shutter at a distance from the apparatus for the use of nature photographers.

Mr. Wm. J. Thompson of 649 West 43rd St., Manhattan, New York, also applies for protection in this country for a light-tight camera attachment which holds plates of different sizes and brings them into correct focus by use of a magnet and metal sheaths. Mr. Louis Dufay of Paris, well known as the inventor of the Dufay natural color plate has evolved a new system for the manufacture of light filters and screens for use in conjunction with Dufay plates.

Post Impressionistic Photographs

On the day of writing (Sept. 6th) the London Salon of Photography has thrown open its doors on its annual exhibition and the picture-seeking visitor is treated—or should I say tormented—this year to one or two creations which have been described by the daily press as post-impressionistic photographs. Dr. Quedenfeldt, a German worker, contributes the most freakish effusions with several contorted portraits in the gum-bichromate process. Altogether 400 exhibits are hung, including works by the Dührhoops of Hamburg, Mme. D'Oro of Vienna, and Karl Shenker of Berlin. Amongst the British workers, Mr. Alex Keighley is an easy first with his inimitable carbon work while the best picture from "across the herring pond," in my opinion, is a study of Princess Patricia of Connaught, by Mr. Walter Mackenzie of Montreal. But the principal note of the Salon is the freak photo. A view of the Champs Elysees, for instance, taken from between the fore and hind legs of a cab horse and a distorted view of a foggy thoroughfare are typical examples.

A Mountant for Course Mounts

"Which is the best mountant for use with coarse and rough surface mounts?" is a question I have often been asked by troubled amateurs. Dextrine is a good medium and an ounce mixed to the consistency of a paste with water then boiled over the fire should suffice in most cases but where very stiff prints and coarse or rough surface mounts are used the following will answer admirably alike for amateur or professional: Mix one ounce of Bermuda arrowroot with a little cold water, then in ten ounces of water dissolve by heating a drachm of gelatine. Boil up and mix the arrowroot, stirring till clear. Allow to cool and add a tablespoonful of alcohol and a few drops of oil of cloves.

Canadian Exhibitors

Mr. A. Kelly (Toronto), Mr. T. Boyd (Winnipeg), Mr. C. Macnamara (Ontario), Mr. R. Lewis (Winnipeg), and Mr. A. S. Bowers (Toronto), are each exhibitors of artistic photographs now being held in London under the auspices of a photographic journal.

Photography and the Turf

Absolutely the newest application of the camera to sport, calculated to obviate discussions on the turf consists of an automatic method of snap shotting race horses as they pass the winning post. Exactly a yard from the winning post line a thin invisible thread is stretched across the track at the height of a horse's shoulder. The first horse to touch the thread breaks it releasing the shutter of a camera in the judge's box which has previously been focussed on the winning post line. It is not intended to employ the photographs as a sole means of judging but to corroborate the judge's decision. It is expected that the system will be shortly officially adopted by the English, French and Belgian turf authorities.

Prints From Wet Negatives

The Rev. F. C. Lambert in a recent dissertation on the rapid printing of bromides from a wet negative described a new procedure which might commend itself to the professional photographer. An old thin celluloid film is stripped of its emulsion in warm water and cut to the exact size of the negative to be printed. The film and negative are together immersed in quite cold water and the former pressed gently over the emulsion side of the negative. It should firmly adhere. The two are now lifted bodily out of the water and the glass side of the negative and the opposite side of the film carefully dried either with a rag or spirit. A dry piece of bromide paper is now placed in contact with the protected negative and printed in the conventional manner. On development it will be found that the intercepting film does not materially affect the printing quality of the negative. When one or two prints have been made in this manner the film and the negative are separated by immersion in cold water but extreme care must be exercised in this process owing to the delicacy of the emulsion. J. B. SUTCLIFFE.

William Morris, poet and art-craftsman, made intelligent use of photography in his designing of letters based on old models. He enlarged the various letters on which he had his designs, several diameters and then drew his new creation still larger, when to his satisfaction it was photo-reduced to the required size.

The photographer who would be successful with children must be able to appreciate and cultivate that charm of unconsciousness—or rather naturalness—which is a feature of child life. And he must illustrate but one phase of this naturalness, for it is impossible to record on one plate the infinite variety of the childish expression.

The artistic photographer vexes his soul over the blindness of the world in general and his customers in particular; but if he is a business man he will pity their ignorance and by tact and diplomacy meet their approval.

"Good enough" is all right in farming, all wrong in photography.

We often are inclined to poor negative making and excuse ourselves because some printing processes suppress detail; but a perfect negative is good for *all* papers and unsuitable for none.

Remember that if your chemicals are O. K. they will possess no soul. They can be neither mean nor stupid, and if properly handled will work correctly with a blind certainty.

EDITOR'S TABLE

Be Original

THE great strides photography has of late years taken on the artistic road, and with the many evidences of the beautiful possibilities of the picture in almost every branch of art, it behooves us to endeavor to make what is exceptional the rule, elevating the standard, and taking away forever the reproach with which the craft has been so long shamed.

It is, of course, not to be denied that the artistic results which have gladdened us are the product of men of true artistic sense and feeling; but there are yet many practicers at the camera who, if they understand what art is, pooh-pooh its alliance with photography, and their opposition is strong, and, unfortunately very prejudicial. One of the most fatal, because most deceptive, evils wrought by the inartistic operator, is an *apparent attempt* at artistic treatment, *in effect a servile and ridiculous imitation of the work of an artist.*

Thus the original mind adapts the principles of art to his work, and stamps it with the marks of his originality, leaving more or less to what may be termed a "mannerism," as, for example, the so-called "Rembrandt effect." *This can never be feeble or foolish if the work of a thoroughly artistic and original mind.* But mark the result: when this is repeated by the soulless and unappreciative copyist, who finds the "style has become popular," thousands of insane pictures in the one effect instanced, *i. e.*, the "Rembrandt," testify more eloquently than words.

That this fault is rampant may be seen by the cursory perusal of specimens of work from photographic studios, and the success of the copies, in most instances, is lamentably small. The work of a great man may *suggest*, but is not to be copied.

This seems to be the error of the time, and it is a very grievous one. It seems deeply to be deplored that we should go so near success (as an awakening to the knowledge of what is good evidences a desire for better things), without securing it by study, instead of halting at imitation. Let us get back to saneness —be original.

There are, every intelligent observer must be aware, still many who have every desire and some ability for improvement who appear to follow their master closely, even to the imitation we have deplored, but these are, whatever may be their faults, still true and loyal students, who deserve success. They already have earned the gratitude and commendation of every lover of photography who desires to see the advance of its artistic branch.

Coming Events

In December this magazine will be fifty years young, and it is our purpose to celebrate with a large double number, full from cover to cover with many original articles of practical value by the foremost writers on photographic matters, and many notable illustrations by the world's leading photograhers.

Wilson's is first and last for the person who is seeking success in every branch of practical photography. It seeks to help him in his daily work to do better work. For fifty years it has helped successful photographers to reach greater success, and to-day is better equipped for its work than ever before.

We have already in hand several new and important series of articles, which will add freshness and vigor to the contents, and which are in the line of advancement. In this number we begin a significant series on "How to make the Studio Pay," by Frank Farrington, author of "Selling Suggestions," "Store

Management," etc., who has a world-wide reputation and is eminently fitted to treat on this practical subject. In subsequent numbers Mr. Farrington will write, under this head, on "Buying and Arranging the Stock," "How to Know the Profits," "Credits, Collections and Accounts," "Advertising you can do" and "Business Getting Plans and Schemes," etc. We regard this feature alone worth more than a year's subscription to the magazine. Other important articles will follow by Sidney Allen; L. Tennant Woods; Pearl Grace Loehr; W. L. F. Wastell; F. C. Lambert; George Smee; Francis Caird Inglis; Alfred Bishop Hitchins; Prof. E. J. Wall; Dr. Kenneth Mees and many others.

We mean to make WILSON'S more attractive and valuable than ever to add to the interest and helpfulness of our readers. You cannot afford to miss the Jubilee number. This number alone will be a photographic review well worth preserving.

IF YOU DO NOT

IF you do not make an effort and reach out as far as you can see, honestly and persistently doing the best you know how, you cannot expect much success. If you do not try the new formulæ and processes which come to your hands, but, on the contrary, stick to the old ruts, you cannot expect to make much progress or improve. If you do not try to make every picture you produce better than its predecessor, you cannot expect much growth. If you do not try to be sociable and agreeable to your patrons, and especially during the making of the sitting to divert them and to attract their attention, you should not expect satisfactory results. If you do not see to it that your reception-room and your skylight are kept in good order and neatness, you must not expect good patronage, especially from the ladies. There is much in having the surroundings agreeable. Some studios we have visited give one the feeling of entering a tomb or some other dark and dismal place. Your skylight should be cheerful and agreeable to the eye, and you deserve to lose your patronage if they are not so. If you do not read the photographic magazines and books, but endeavor to persuade yourself that it does not pay, you will find out presently that your customers are better posted in your business than you are, and that you must either catch up or leave the race. The public nowadays do not like old fashioned out-of-date methods, and they can tell very quickly when a man is enterprising in his business. If you do not find your business pays, the fault is generally your own; you should use what knowledge you have, and if that is not successful, you should strive to get more; also to use the best material, and endeavor to turn out your work in the best possible manner. If you find that your taste is lacking, try to cultivate it by studying the work of others. *Raise your standard of taste* by careful comparison with the best examples—the masters in photography. Do not let any bad work leave your place. You may think your customers do not notice it; if they do not, their friends will sooner or later post them, and the result will not be good for you. If you do not try in earnest to do the best work every year you will find yourself going backwards. If you do not lay in a fresh stock of patience every day you will find business going against you.

EXPRESSION

IN your ambition to obtain good results, what a formidable lion in your path is that one thing, *expression!* How many of your most prized negatives have to be thrown aside for the objection of bad expression. Success in this particular of obtaining the representation of your sitter looking at his best, is more valued (except by your own professional pride, which is not taken into consideration by customers) than the most elegant pose and artistic manipulation of the subject.

To obtain a good expression on the face of the sitter, then, ought to be your study—for, generally speaking, it is to be gained—and then it will be found that your best work is selected instead of your worst. As a master in the art of worrying a good expression out of sitters you can then expect to work at the greatest advantage. There is hardly a doubt in our mind, that if you were to make an endeavor to render yourselves agreeable to your customers, you might secure, in every instance, that *rara avis in terris*—a good expression. With a young and beautiful girl how considerate and pleasant we are! How anxious that she appears at her best; and your treatment of her conduces greatly to that end. If you only evinced the same concern, and exerted your powers to the same degree in the case of less agreeable subjects, your efforts would, in the majority of cases, be crowned with gratifying success. A great deal is at stake in this particular, therefore it behooves you not only to abstain from exhibitions of bad temper before your sitters, but always to carry with you a smiling face and gentlemanly deportment; and you will then be able to smile because you are successful, and make others smile too.

MASTER OF ALL

ALTHOUGH the doing a multiplicity of things is not desirable so far as perfection in any one given thing is concerned, yet if there is a living in it, if for no other reason, it is desirable to be handy at many things. In conformity to that reasoning, it is necessary to adapt one's self to the job in hand.

Therefore, while you work at photography, which is so interwoven into almost everything, it is necessary that you cultivate your eye and mind to the effects of light in all its grades of strength from the bright and brilliant ef-

fects to deep and sombre tones, that you may be able to judge rightly as to the length of exposure for any given effect, and that, too, without hesitation. At the time of exposure there are many things to be attended to, and all must be decided on in quick succession. When you recognize that on the length of exposure depends all subsequent operations, especially the development, it becomes necessary that you should be particularly careful as regards its duration—longer if the light is dull and of little volume, and shorter if strong and powerful, but still time enough to avoid harshness by getting too strong lights with no detail in the shadows. All this must be the outgrowth of experience. Thus the eye is educated to a due appreciation of what the light is, whether it be strong or dull, or that beautiful light for groups out of doors had on hazy days that mingles the high lights with the shadows so perfectly that the result is pleasing to the eye at all times.

Then, again, in development it is necessary to go cautiously, that the negative may not be spoiled at the outset by too strong a developer or too weak a one. A leaning to the weaker one is preferable, and then strengthen up as the occasion requires.

Posing is another thing that either spoils or enhances the value of a picture. All else may be perfection, but a bad pose spoils all. If art is left out, the picture becomes only a mechanical and chemical effect. So, too, if it be a group or genre picture, for if composition enter not into the subject, all is but the outgrowth of circumstances and is inartistic. These things cannot be overlooked with any safety, although sometimes chance seems to be art. It is not well, however, to depend on chance, for it takes so little to make it one thing or the other.

Therefore, the eye and mind must be ever at work composing and inventing, to train it to do its duty. We know no better way than that of observation and the study of the work of those who have preceded and excelled.

All books of art must be the constant study of the lovers of the beautiful. The book of Nature, too, is open at all times for our constant inspection. From it, much inspiration flows. The study of Nature, to bring it down to the more gross and selfish chapter, instructs us how to adapt ourselves to humanity in general and teaches us, if apt scholars, that it is the powerful who rule; therefore it is well to become powerful, by going in a given line, that we may be masters of ourselves.

NOTES AND NEWS

Sector Shutters and Cyril Lan-Davis

Dr. Cyril F. Lan-Davis, F.R.P.S. has just reported upon his study of sector shutters. He deals with the number of leaves which make up this sort of shutter and he shows that the location of the pivot does not affect the ratio of the total diameter of the shutter to its opening diameter. He shows by means of figures that an alteration in the form of the leaves as well as a reduction in their number results in an additional area being uncovered for equal particle central openings in the shutter.

In doing this he compares a ten-leaved shutter of the usual iris form which opens in an expanding circle from its centre to its edge—so that the amount of light transmitted by the margin is very small indeed—with one that has two leaves only which opens in a broad band that rapidly expands to the full circle.

A shutter of this latter kind would also possess the further advantage that it could be made smaller as the ratio of the entire diameter to the aperture is only 2 to 1. Although shutters of this type are not as yet in this country on the market in large numbers, they are being made rapidly by J. H. Dallmeyer, Ltd., of London and Messrs. Wratten & Wainwright, also of London, have several catalogues and booklets on the market dealing with this new and important photographic subject.

Allied as it is with orthochromatic photography and the use of light filters of special purpose such, for instance, as photo-micrography and the illumination of the dark room, it is one that must be considered by amateur and professional alike.—*Leonard Keene Hirshberg, A.B., M.A., M.D.*

The Goodwin Patent Suit

Judge John R. Hazel of the U. S. District Court, at Buffalo, N. Y., rendered a decision on Friday, August 15, against the Eastman Kodak Company in the patent suit originally brought by the Goodwin Film and Camera Company in 1902, for alleged infringement of the Hannibal Goodwin film patent.

The decision declares that all the common types of film manufactured by the Eastman company, such as cartridge films, film packs, and cinematograph films, are an infringement upon the Goodwin patent. Under the court's decree, it is understood that an injunction will be issued restraining the Eastman company from continuing the manufacture of the films and that the court will direct an accounting to the plaintiff. The sum in which the Eastman company may have to account to the plaintiff is, presumably. very large. Whatever the amount is, it involves profits made on films by the Eastman company during the last fifteen years.

It is expected that the Eastman company will carry the case to the United States Supreme Court, and if the usual course is taken in such cases, the Eastman company will be permitted to continue the manufacture of films during the period prior to a decision from the United States Supreme Court by giving bonds to indemnify the plaintiff for past and future profits.

The inventor of the film was the Rev. Hannibal Goodwin, who for many years was rector of the House of Prayer in Newark, N. J., a Protestant Episcopal parish. Mr. Goodwin was an amateur photographer and a practical chemist and he devoted a number of years to devising a substitute for glass in photographic plates. Mr. Goodwin died in poverty in 1900 and his interests were taken over by the Goodwin Film and Camera Company. This company's interests were finally acquired by the Ansco Company.

THERE'S a Cooke lens for every department of photography, both scientific and commercial. And for home portraiture, the Series II is one that is being daily put to test by many who specialize in this branch of photography. Write for the 1913 catalogue to Taylor-Hobson Company, 1133 Broadway, New York City and mention WILSON'S.

WE wish to call our readers' special attention to the advertisement of The Photo Products Co. in this issue. All photograhers should know about their "Platora" paper, which is strictly a professional portrait paper. It is not made in contrasty grades, therefore will not produce brilliant results from negatives inclined to softness. For soft, flat negatives, Instanto, especially the hard grades, will be found better suited. Platora has extreme latitude, both in exposure and development. With this paper it is possible to bring out all the finer details of the negative, obtaining a print of silky transparency, possessing a distinctively rich portrait quality, not to be found in any other professional paper, and with a remarkable combination of brilliancy and softness that you'll find decidedly pleasing. It is particularly adapted to sepia work and most beautiful tones are obtained with ease and uniformity. The rich, individual quality of Platora has firmly established it in numerous high grade studios where, by comparison, it has proven its superiority in portraiture.

Be sure and write for the new descriptive list, and mention WILSON'S.

It was only a couple of years ago that the Minneapolis branch of the Ansco Company, foreseeing the growth of the business, moved into larger quarters, but the growth was under-estimated so that it has been necessary to make a further move. It has leased a very large place in the Commercial Building, corner of First Avenue, North, and Third Street. Orders should be mailed to the new address so as to prevent delay.

REAL APPRECIATION

EDITOR, WILSON'S PHOTOGRAPHIC MAGAZINE:

Dear Sir: I thought it due to you to write my appreciation of the August number of WILSON'S just received to hand. I had noticed the improvements in the last few numbers, but the August issue is, I think, the best that has yet been published, at least, during the past year.

The articles are most helpful and instructive and suggestive of new and improved methods of work, not only in the studio but also in the business department. It makes one feel "alive" to read it. I usually swallow WILSON'S at a gulp, but I find the August number will occupy several meals with long periods for digestion and assimilation between.

In the notice entitled "Co-operation" (which, by the way, I did not read through until after commencing this letter, my eye happened to catch it when looking for an article to especially praise, but this I cannot do, they are all good alike), you ask for suggestions. I can only say "Help photographers to see their faults," artistic and technical Personally, I am very anxious to lift my work above the "common rut" and I believe WILSON'S is the magazine to help me.

Thanking you again for your efforts to help the professional, I remain,

Yours faithfully,
C. F. EMENY.

Sudbury, England, Aug. 31, 1913.

"SINCE WILSON'S PHOTOGRAPHIC MAGAZINE was disposed of by Mrs. Edward L. Wilson to the Edward L. Wilson Co., Inc., last March, the new editor of the magazine, Mr. Thomas Coke Watkins, has made many changes in its format and general make-up. Apparently new money and new energies are at work to bring this oldest of American photographic magazines to its proper place ahead of its contemporaries. Our acquaintance with WILSON'S

runs back almost 'time beyond memory.' When we first knew it, it was acknowledged to be the most interesting journal in the world for those who follow photography as a profession. In the writer's opinion, it still maintains that reputation. The professional who 'get's along' without WILSON'S loses much that might be to his practical advantage."—*Photo-Miniature.*

"IN the July number we reprinted an article titled 'Publicity.' This article was taken from WILSON'S MAGAZINE and through a typographical error proper credit was not given. We take this opportunity to give WILSON'S MAGAZINE the credit.

We have frequently printed articles from this magazine as we have found that it contains matter of particular interest and of unusual value for the professional photographer, and we recommend to our readers that when considering the matter of subscriptions for photographic literature that they give special attention to this, the oldest and best known photographic magazine in the country. It is always interesting; always practical and helpful."—*Trade News.*

FROM the Wright Photo Supplies, Racine, Wis., we have received their interesting and well-printed catalogue of 304 pages for 1913 and 1914, containing virtually everything photographic, most of the goods being illustrated. It is, therefore, invaluable for reference and should be in the hands of every photographer. This catalog is an expensive one, and Mr. Wright makes the same rule as last year, namely, the catalogue will be sent upon receipt of 25 cents, with a credit certificate good for that amount with the first order of goods. In this way the catalogue is always placed in interested hands and really costs the recipient nothing.

BURKE & JAMES, Inc., are now booking orders for the Vacuum Print Dryer, which was one of the sensations of the Kansas City convention. With this apparatus prints can be dried perfectly in half an hour. Its capacity is 150 8 x 10 prints or their equivalent, at one time. The price of the Dryer only is $18.00. Send for descriptive circular giving full particulars and prices. The Vacuum Print Dryer should be installed in every finishing department.

PORTRAITS AT THE R. P. S.

The 58th annual exhibition of the Royal Photographic Society is particularly rich in portraiture, figure study and *genre*. On examining these exhibits one fact stands out with unmistakable emphasis—the general standard of work has been enormously raised during recent years. Even in the very early days of photographic portraiture some masterly work was produced, but its producers were few. The best of that work has hardly been excelled in some of its qualities, but the number of able portraitists has increased a hundredfold.

It is not easy to mark out even a vague and approximate dividing line between good average studio productions and work of real distinction. The difference is there, palpably enough, but it is often subtle and indefinable. This should provide encouragement for the professional portraitist, inasmuch as it implies that but a little more persistence of effort is necessary to carry him over the boundary and stamp his work with the seal of the master hand.

There is obvious in much modern portrait work a sound and thorough knowledge of the varieties and intricacies of pose and lighting, but what is more valuable still is the increased evidence of insight into character. It is in this latter respect that the master declares himself. Technical competence is indispensable to the best work, but it is by no means all-sufficient. There must be added the faculty of character reading and human sympathy. There are not a few photographic portraitists who possess an insight which rivals that of the great painters, and in spite of the limitations of their media they enshrine in their work vivid interpretations of mind and soul. Their subjects are no longer lay figures but living, emotional human beings.

Improvements in apparatus, materials and accessories have given the modern photographer great advantage over the earlier workers. In no respect is this more palpable than in the multiplicity of printing processes at his disposal. Of these the fullest advantage is taken. Unfortunately many professional photographers fetter themselves by restriction to a very limited range of processes. This is a mistake. Good results by one process might easily become better by the employment of another. In the Royal Photographic Society exhibition there are examples in every variety of platinum, carbon, silver, bromide, gum-bichromate, oil-pigment and bromoil in monachrome and color. To these must be added color results by photogravure, and by the autochrome and other screen-plate processes. All these have been employed not for the mere object of introducing mechanical variety, but with the express aim of employing precisely that medium most appropriate to the particular effect and quality desired.

William Crooke remains faithful to platinum as the best process for those rich results that have placed his work on a level with mezzotint. Robert Demachy, on the other hand, has slowly felt his way to oil transfer as the best exponent of his artistic perceptions. Rudolf and Minya Duhrkoop have, in a sense, improved upon perfection by producing masterly portrait pictures by the bromoil process. In all three cases, it will be observed, the process is rightly a permanent one. Adding carbon to the list we have four plastic and beautiful processes to which every serious

portraitist should devote careful attention; not only by virtue of their beauty, but on account of the lasting qualities so essential in the production of portrait work of value and interest.

All the work shown is remarkably sane in treatment. There is no striving after cheap effect by unorthodox means. At a recent London exhibition there were some examples of portrait and figure work from negatives that had been boldly etched all over with apparent lack of all purpose or meaning. Even a white collar was roughly cross-hatched with black lines. There is no merit in mere eccentricity. In the best work nothing is done that has not its duly considered purpose. A study of the finest portraiture at the exhibition clearly indicates the lines along which the photographer must move to the highest success attainable—close observation of physical and mental characteristics, and the skilled use of such processes in method, treatment and media, as shall most faithfully and strikingly record them.

It is distinctly encouraging to mark the very high standard of achievement attained in the difficult but fascinating art of photographic portraiture. Its possibilities are great and worthy; and it behooves every worker to use his most earnest endeavors not only to maintain the high level of excellence that has been reached but to attain to still greater heights.—*W. L. F. Wastell, F. R. P. S.*

AMERICAN ANNUAL OF PHOTOGRAPHY, 1914

THE publishers announce that the preparation of the "American Annual of Photography," 1914, is now well under way, and will be ready for delivery the latter part of November.

We are assured that this 28th edition is going to be a better and more attractive book than ever before. The 1913 edition surpassed all former years, and this new volume is expected to exceed that in every way. It will be well, therefore, to place your order early with G. Murphy, Inc., 57 E. 9th St., New York.

EVERY photographer who is interested in metal frames for photographs and miniatures of all kinds cannot do better than communicate with the L. H. Cohen Co., 28 E. 22nd St., New York City. This firm has the experience gained from twenty-seven years spent in making this class of frames, as well as leather travelling cases for miniature lockets, and all of these will commend themselves to you. The very fact that they have continuously made their goods the best possible has established for them a national reputation, and has enabled them to deal with all the leading houses in this and foreign countries. They make a specialty of all the various effects of gold and silver finishes, making such harmonize with the tones of the picture to be framed. We are confident that it would be of interest to you to get acquainted with their line, and we recommend your sending for the latest catalogue at once, mentioning WILSON'S

THE Ross "Telecentric" Lens, in addition to it being a rapid long distance lens, giving enlarged images at high speed, the 17-inch F. 5.4 is also an ideal inexpensive portrait lens for 5 x 7 plate work. It can be used at full aperture, and it is sufficiently rapid for all requirements. The long focus gives better prospective and insures the most pleasing results. The large size images obtainable with this lens, and the comparatively short camera extension required appeals strongly to the professional photographer. 5 x 7 plate covered with three-quarter portrait at 12 feet 6 inches distance. Price $95.50.

While the largest size of the Ross "Telecentric" Lens that has been stocked and carried is the 17 inch F. 5.4, yet for one of the large newspapers we have just delivered a 24-inch Ross "Telecentric" Lens F. 5.4. Price list of this lens is $300.00, and we hope soon to have some prints that will illustrate the great power of this quick lens. As this is one of the largest lenses of its kind ever made, we here give the specifications, believing them to be of interest to those who desire to make large work at high speed reaching large images of distant objects:

Equivalent focus, 24 inches; aperture F. 5.4; size of plate, 8 x 10: inside diameter of flange, 4½ inches, length over all, 8⅛ inches; distance from back cell to focussing screen for objects at infinity, 12½ inches; outside diameter of front cell, 4¾ inches.

While this size will not be kept in stock, yet orders for the same can be filled in five to six weeks time.

GEORGE MURPHY, INC.

FROM J. L. Lewis, 522 Sixth Avenue, New York City, we have received copies of the complete Barnet booklet, which is a bringing together of all the up-to-date information formerly contained in separate handbooks. The Barnet plates are described, and the user is furnished with a good set of exposure-tables for use with them. Full data on time development with the Barnet formulas are also given. The handling of Barnet Bromide and Gaslight papers is also fully described. A copy of this interesting book can be obtained by mentioning WILSON'S.

THE requirements for the studio photograher have been wonderfully simplified in the last decade so that as regards the camera outfit the size has been limited to two, either 8 x 10 or 11 x 14. If larger portraits are asked for, an enlarging lantern or camera does the work on Cyko paper. The result is by far more pleasing and artistic than if a larger direct negative were made, to say nothing of the unnecessary additional cost.

Systematize Your Studio

The importance and value of a studio register system is being realized and appreciated more and more by the up-to-date successful business photographer.

The many advantages of the loose leaf style of books for office use are so well known that it is not necessary for us to dwell on them in announcing the new Eastman Loose Leaf Studio Register.

It contains 100 leaves, ruled on both sides, in the most approved style, giving 200 pages for the recording of orders. There is also an alphabetical index, large enough to record all the names in the book, with the number of page on which the order will be found.

The order pages are ruled for a record of the date of order, name and residence of sitter, number of negative, size, style of mount, quantity ordered, when promised, proof sent, proof returned, deposit paid, balance due, date of delivery and remarks.

The strong board covers have a covering of pebbled cloth, with back and corners of fine grained leather.

A portion or the entire number of leaves may be quickly removed and new ones inserted, new leaves being furnished in packages of 100 with index. Besides the convenience, there is the economy of purchasing new leaves at a nominal price, and retaining the same binder for an indefinite time. Every success is built up on system.

Method of Making Colored Photographic Reproductions—J. Lewisohn, Manhattan, N. Y.

The invention pertains to a process in which use is made of the original blue color of a blue-print reproduction as one of the ordinary spectrum colors, and use is also made of red eosin for the red and aurantia for the yellow. The mixture of these three colors obtains substantially any of the spectrum colors.

If you wish a small print from a negative for a locket or watch, says *Studio Light,* it is not necessary to make a print and a negative, as some have been accustomed to doing. Instead, make the reduced print in the camera, after the following method:

Cut an opening in a large piece of cardboard and fasten the negative into this opening with binding strips. Hang the cardboard in a window which has been covered with one thickness of white tissue paper. The large cardboard mask which holds the negative will shield the lens from the light of the window. Place your camera square with the negative and focus image on the ground glass to the exact size of print wanted.

Place a sheet of Artura or Bromide paper between two pieces of clear glass and place in plate holder the same as a dry plate. Stop the lens down slightly, make the exposure and develop the print in the usual way.

The time of exposure will depend upon the lens, negative, strength of light and kind of paper used, but an experiment or two will give one a good idea of what exposure is necessary.

Not more than one or two of these prints are ordered, as a rule, and the above method will save much time and trouble when you have the original negative.

Ingento Style C Rapid Printer

Messrs. Burke & James, Inc., write us that the success of this new Printer has been phenomenal. It is a time and labor saving machine that should be part of the equipment of every finishing department, portrait or commercial. It will pay for itself in a very short time. If you have an amateur finishing department, install a Style C Printer at once, for it will not only enable your finishers to turn out a greater volume of better work in a given time, but you will have it on hand for immediate demonstration to your professional customers, thus not only saving you money but increasing your profits by further sales. Price $20.

The foundation of a good print is a good negative. Anyone of average intelligence and by following printed directions can make good negatives with a dependable camera and with the proper kind of film or plate.

Good negatives may be divided into three classes—soft, normal and vigorous—the latter referred to sometimes as "contrasty."

It all depends on the paper used for printing what results are obtained from good negatives in the respective classes mentioned. Any of these good negatives if printed on the wrong paper will produce poor prints, and all of them will produce beautiful prints on the right grade of Cyko paper.

Stand Development

We doubt if any one desiring to develope by stand method has the intention of making it a scientific pursuit, it is far rather a method of convenience in which it is also distinguished from time, or factorial development.

Stand development is purely and simply the placing of plates in a more or less dilute developer, and examining them from time to time to see if they are done; by this means a batch of various exposures may all be developed in the same tank, and as the more fully exposed plates become sufficiently developed they are removed and the others left until completed or transferred to a stronger solution.

There is no doubt that this method produces a series of very level negatives and may suit many workers when once they have found the developer which produces the result they require. But it is reducing development to a mechanical process and gives very little scope

for individuality.

Formulæ for this method are given under "Agfa" book. A very useful table is given under this last heading showing the approximate time required at various temperatures. A copy of this little book is valuable.

PROCESSES AT THE ROYAL PHOTOGRAPHIC SOCY'S EXHIBITION

The processes used by exhibitors at the Royal Photographic Society's always attract a considerable amount of interest. Although competitors were asked to give the names of the printing processes several did not do so, and 32 of the 343 pictures in the Pictorial Section have no process marked against them in the catalogue. The pictures by the various processes are: Bromide 84; platinum 58; bromoil 51; gum 19; carbon 18; oil 16; oil transfer 13; silver 8; gaslight 9; color bromoil 7; oil pigment 7; photogravure in color 6; gum bichromate 4; ozobrome 4; ozobrome on bromide 3; albumen 2; color oil process 1; double toned bromide 1. Bromide, it will be noted, is the popular process, but platinum is "looking up," while the two albumen prints are something of a surprise.

ONE of the big features at the New England Convention was the demonstration by Shering & Glatz of their new "Assur" method of coloring photographs.

Although but recently introduced the Assur Coloring Method is widely used in the art departments of the foremost lithographic concerns, by artists, professional and commercial, as well as photographers all over the United States.

All the difficulties encountered with water, pastel, oil colors, known to every photographer and too numerous to be mentioned here, seem to have been overcome. The new booklet will be of real value and interest to every photographer.

THE NEW ENGLAND CONVENTION

THE fifteenth annual convention of the Photographers' Association of New England, was held at Mechanic's Building, Boston, Tuesday, Wednesday and Thursday, Sept. 2d, 3d and 4th.

Tuesday morning was occupied by the manufacturers arranging their displays. The meeting was called to order in the afternoon by Vice-President Bushong. An address of welcome was made by Mr. M. B. Parkinson, followed by business, and later Mr. Able gave his practical talk on "Studio Organization." "Daddy" Lively gave demonstrations on posing, etc. In the evening a dance was given in the Convention Hall.

Wednesday was devoted largely to the manufacturers, with talks on commercial photography, the value of advertising, etc., and further demonstrations by "Daddy" Lively.

On Thursday morning Pirie MacDonald and others gave short talks and later came the election of officers.

J. Chester Bushong, of Worcester, Mass., was elected president; D. J. Bordeaux, of Springfield, Mass, first vice-president; John Sabine, of Providence, R. I., second vice-president; W. H. Partridge, Boston, Mass., treasurer; Geo. H. Hastings, Newtonville, Mass., secretary.

There was an unusually fine exhibit of autochromes by Will Rounds of Lowell, Mass. The picture exhibit could have been better, and the attendance as well. Every indication seems to be for a larger and better convention next year.

WHAT the visible typewriter is to the business man, the "Visible" printer is to the photographer.

The "Visible" is simple in construction, rapid in operation and automatic in action and the most convenient tool the modern up-to-date photographer can have in his work rooms.

The "Visible" has many improvements over the old-style printing machines, but of its many points of superiority the most important is just what its name implies —"Visibility." The experienced photographer will at once see the great advantage of this excellent feature.

TOPICS IN LEADING PERIODICALS

Blocking Out a Background. Sept. 8th *Amateur Photographer.*

Best Focussing Screen, The Sept. 5th *British Journal.*

Effective Studio Improvements. Sept. 5th *British Journal.*

Exposing Plates or Films to Light Before or After Exposure. Sept. *Camera.*

Emulsions for Photographic Papers. Sept. 12 *British Journal.*

Focal Length of a Lens for a Studio, The Sept. 5th *British Journal.*

Ground Glass—Real and Imitation. A. J. Jarman. Sept. 3d *Bulletin of Photography.*

Matt Surface Printing-Out Papers. A. J. Jarman. Sept. 10th *Bulletin of Photography.*

Positives Upon Gelatine Dry Plates. A. Taylor Snow. Sept. *Camera.*

Platinum Toned Silver Prints. Sept. 10th *Bulletin of Photography.*

Practical Lantern Slide Making. Ernest Marriage. Sept. 16th *Photography & Focus.*

Prints in Varied Tones by Development. René Salmon. Sept. 15th *Amateur Photographer.*

Photographing Small Interiors. Sept. 12th *British Journal.*

Photographing Moving Objects. Sept. 15th *Amateur Photographer.*

Reversal Rupert Barrett. Sept. 2d *Photography & Focus.*

Rough Surface Papers and the Object of Their Use. C. T. Holloway. Sept. 9th *Photography & Focus.*

BY MAY L. SMITH, BINGHAMTON, N. Y.

ILLUSTRATING SIDNEY ALLAN'S ARTICLE

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. L NOVEMBER, 1913 No. 11

PROFESSIONAL PICTORIALISM

BY SIDNEY ALLAN

Illustrated by May L. Smith

IN recent exhibitions, for the last few years, as well as at camera clubs and conventions, more than one-fourth of the contributors have been women. And their efforts taken *en masse* invincibly show a certain pictorial quality and charm that the men's work lack. True to their feminine nature they are, as a rule, less precise, more easily influenced but also more poetic, more refined, and, strange to say, more ambitious—in the pictorial direction. Hardly the work of any woman photographer shows that dry, hard, matter of fact quality that is so frequently met with in the show cases of strictly commercial galleries. Money may be the aim of a woman as much as that of a man, but she tries to make it in a little more graceful manner. She simply cannot help herself, perhaps she has better taste. Her work is rarely virile and inventive like that of the better men, but the average is esthetically more satisfactory.

May L. Smith, with a studio in Binghamton, N. Y., is one of the ablest woman photographers the profession can boast of, and her work proves my argument. It lacks, as yet, strength and decision of purpose, but it is ambitious throughout. She is willing to learn and trying her best to improve the pictorial qualities of her prints. Looking over the pictures that illustrate this article, we find that her work is very uneven, it is frequently amateurish and experimental, but there is a decided pictorial note to be found almost in every print.

The portrait of a boy, Fig. 5 is perhaps the most satisfactory, but at the same time the simplest and least pretentions one. It is just an ordinary pose

with a pleasant facial expression, carried out in a light tonality. As a commercial proposition—a pleasing portrait that would do credit to any of the better photographic establishments—it is almost faultless. It is sure to satisfy the average customer, who has decided on this particular style of representation. But that is all there is to it. One cannot say more, and pictures of this kind would never help to rank the photographer as a pictorialist.

Fig. 8, on the other hand, is a much more ambitious effect. The photographer tried to make a picture but failed. The pose is natural enough, but the space arrangement is too bald. The lines of the figures and accessories do not connect, and there is a neglect of detail (in the treatment of the hands) which does not help the composition.

Of course, Miss Smith labors under the same difficulties as every professional who is anxious to introduce pictorial qualities into ordinary routine of portraiture. She would like to do certain things and yet is doubtful whether the customer will approve of it. She has her own ideas about what is pictorial or not, and yet does not dare to omit or add what she considers most judicious. Conditions such as these are not conducive to produce good compositions and pictorial qualities of exceptional merit. In art things have to be done boldy and not halfheartedly. Of course, it is not the fault of the craftsman, but of conditions of the business and class of customers.

Fig. 2, a mother and child portrait is perhaps one of Miss Smith's most ambitious experiments. The upper part of the picture is charming, but the group is too clearly silhouetted against the background, and the lower part is too light a tint. There is no concentration, no plane of light so prominent that it would control the rest of the picture. Also the treatment of the hands is deficient in flesh value and accuracy of shape. And yet the picture has a charm of its own, and I believe a small oval showing little more than the two faces would make an excellent pictorial fragment.

More satisfactory though less ambitious compositions we notice in the heads, Figs. 3, 4 and 7. Fig. 3 is a well placed head of a pretty young girl. There is nothing in particular about this picture to recommend or to find fault with, except it were the retouching, which is done in a shipshod manner (this may not be noticeable in the reproduction). It spoils the flesh texture, which should be the most pleasing part of this picture. Despite the excessive retouching the face has kept its virile expression, which shows that the operator understands how to seize upon "the right moment." We encounter the same animated expression in the portrait of the boy in tam-o'-shanter and overcoat, Fig. 4. This portrait is interesting as a space composition, the utilization of simple straight lines to break up the background. The retouching on the window shows that operators are not half careful enough in placing objects, they are generally in such a hurry that they are apt to forget that any time gained under the skylight may be lost again in the workrooms.

Fig. 8 is an attempt at a decorative arrangement. It is carried out only in the pose of the head, not in the accessories. There are really no accessories, and one cannot produce a decorative study of a simple profile without some object of embellishment or a special symmetrical or well-thought-out line arrangement. The composition as it is might be greatly improved by changing it into an oval or oblong. The eye is bad, it stares and therewith spoils the facial expression, which is supposed to be one of meditation or contemplation.

Two examples of ordinary good portraiture are furnished by Figs. 1 and 6. The facial expression is not as spontaneous as in some of the heads, but it is at least clear and distinct. The light on the priest's face is well handled, it has a certain vibratory shimmer that is always pleasing as it lends animation to the picture. The hand near the face is a trifle too conspicuous. The lower hand looks too much like a claw, and the book is rather prominent and shapeless, but the two spots were necessary in this dark

composition to balance the face and head. The silhouette of the figure is too much lost, and tone of the gown and the background too much alike. Fig. 1 is well posed as far as the three-quarter view of the figure is concerned. The face, despite the light effect on the upper part is rather dull, and the lines of the chin and neck are too heavy. I wonder if another face with the same arrangement otherwise would have produced a more satisfactory result. The composition is good as a tonal and space arrangement, and the values of the gown and accessories are delicate and in harmony with the background. The failure of this picture seems to be due to the sitter, who apparently did not feel comfortable in this special pose. A minor error is that the arm to the left seems too bulky in comparison with the other one.

The best print in the collection is the bride picture. It is beautifully lighted and the draping is handled with exquisite taste. There is no attempt at any pictorial composition, the picture is truly photographic, it is nothing more than a fact well told. All the necessary detail is there, and the clever division of the background into dark and light, and the blurring of the figure towards the lower margin make the print pleasing to look at, even for people who are not acquainted with the portrayed person. The column to the left is carelessly put in, it looks transparent, it should either be darker and more solid looking, or the light along the edge should not run down in a straight line but be broken in parts.

May L. Smith as a technician has still much to learn, but she has the right conception of things. Her work always strives to be artistic and good portraiture at the same time. It is sane throughout and shows evidence of discernment and good taste. Some work is so good that criticism becomes unnecessary. When Miss Smith is at her best, her work frequently belongs to that class. At other times it is strangely amateurish as if not made by the same person. What she needs most, I suppose, are opportunities for good work, and concentration of purpose whenever such opportunities are offered. Her average work is quite exceptional for the gallery of a small town, and, no doubt, judging from the steady improvement she has made in recent years, she will forge her way to the very front ranks of professional pictorialism—reliable portraiture combined with refinement, good taste, and technical finish.

ABOUT MOUNTING

It is rather interesting to note how much attention professional photographers are giving to the mounting of their pictures. We have long seen the effusions of some amateurs, but the fraternity is equally experimenting in this direction. I am thinking more of the way in which photographers endeavor to use some special type of mount peculiar to themselves. There are half a dozen or more photographers on Fifth Avenue, New York, who appear to cut or to make their own mounts or to use something sufficiently distinctive to be recognizable without seeing the name printed upon it. The fact appears to be that a judiciously selected mount, and one differing from those used by neighbors, is one simple and often very effective way of stamping work with an individuality which attracts the attention and comment of customers.

It does not behoove a photographer to be too extreme in his ideas. But it is a mistake to gauge the public mind or the public appreciation by what photographers themselves appreciate or think. We may be rent with some violent discussion

as to the respective merits or demerits of old and new, or glossy prints and fuzzytypes, but such things are unknown to the world at large.

The question of "taste"—horrible word—forever crops up. As a matter of fact, we are bound by convention, and if a man has any taste at all he may almost be a law unto himself. The latest fashion may be good taste and good art; but five years hence we will pass it by with a shrug of the shoulders as old fashioned. There are two rules—one of which is violated very much at present—which should, we are told, be borne in mind by all good men. They are, that we must never vignette, and we must not trim to a circle or an oval. Now vignetting, before it was done to death, brought much good money to photographers, and just at present prints trimmed with one line and without corners are much in favor. The curious part of it is that these two much condemned fashions are in direct accord with nature. As we look at things, and see them very distinctly just where our eye more particularly rests, and less and less clear as we get further from this centre, so surely see we in vignette. And each eye sees a circular picture, and the combination of the two eyes sees an oval. However, we are not at present concerned with abstract theories. The question of mounts is referred to here—not for the first time—because the difference between successful and unsuccessful photography does not depend on one great thing, but on many little things. It is watchfulness and care at all points that make for success. A pleasing pose obtained, it must be supplemented by good lighting and good negative making. And the print must be correctly printed and properly toned. And then it needs to be carefully trimmed and evenly mounted, and wrapped in neat style for delivery.

The cabinet and carte mounts of happy experience are simply intended as a stiffener or support to the picture until such time as it can be inserted in an album. There has long been a feeling that the shape of this mount was too "squarey," and as soon as photographers broke away from it they showed an inclination to trim half an inch from each side of a cabinet print when the print represented a standing figure. The dealers took the hint, and when they pushed the oval mount they introduced one very narrow and very tall, which nobody liked at first glance, but which every one soon became used to. These mounts, with their embossed borders, enclosing an arbitrary space, are good helps to the photographer who knows how to assort them into his dozen prints—trimming his prints to fit several mounts, and so giving the customer a pleasing variety of choice. The use of a plain mount, allowing any size of trimming, is too good a fashion to be allowed to let drop. The introducers of the "Rembrandt" graduated mount deserve thanks for the way they pushed this idea. The use of a plain mount opens endless possibilities in the way of color, but the average photographer will fight shy of these, and especially will he keep clear of the amateur fashion of superimposing several mounts of dfferent colors. The fine series of gray mounts which are obtainable are very safe to use, and there are many good tints or colors—such as the well-known "carbon-black," which should on no account be neglected. The whole philosophy of mounts would seem to be that a judicious variety is preferable to a keeping to one style, coupled with an effort to make work appear as though a special and different consideration had been given to each individual print.

WARM toned bromides may be obtained with sulphate of copper, 1 part, water, 100 parts; add sufficient carbonate of ammonia to redissolve the precipitate which is formed. Add 2 parts of this solution to 100 parts of a 2 per cent. solution of potassium ferricyanide. Soak the prints well in water before applying the toning solution.

INSIDE THE STUDIO

BY C. BARNES

It has often been a source of perplexity to me as to how and why photographers in general have been led away from the realism of domesticity and homeliness in the interior fittings and furniture of their studios. Why a photographic gallery at first sight should remind one more of an old curiosity shop or the storeroom of a collector of *bric-a-brac* and antiques than anything else, I am puzzled to discover. Painters of today—that is to say, portrait painters—usually introduce as accessories to their pictures such articles of furniture or virtu as are likely to harmonize with the central subject, whereas photographers, for some occult reason unknown to the writer, seem to have a peculiar furniture of their own. Chairs utterly unlike ordinary chairs are to be found in every studio—perhaps every is too strong a word, so I will say most studios— and are dignified by the title of "posing chairs." These have a tendency to render a photographic portrait to a certain extent unnatural, as do also the miniature tables that usually are associated therewith. What is more unnatural than a portrait of a lady in the costume of the present day surrounded by furniture of a description that is not to be found in any dwelling-room, or, in fact, in any other room at all than the photographic studio or the photographic dealer's warehouse? Our aim, I take it, is to represent our sitter as at home; and, to do this correctly, why not use furniture of a description that is in every-day use? I should like to see the studio furnished like an ordinary drawing- or sitting-room, with the exception that the chairs, etc., would not require to be all of one pattern or make, though they should all be ordinary chairs and tables. It was at one time the fashion to represent sitters standing or sitting by the side of a broken column, giving the pictures the appearance of advertisements for some enterprising monumental mason; now they are made to represent advertisements of an entirely new make of furniture. The camera and stand are bound to have their place in the studio, but these should be the only articles of furniture unlike those in an ordinary sitting-room. That relic of bygone days, and aversion of ladies, the head-rest, is still retained in many studios; but it is only on occasions that there is now any real necessity for its use. The introduction of rapid plates has dealt it a severe blow; and, personally, I never use it except for very late sitters, when the sitting is likely to be a prolonged one, or in the case of an exceptionally nervous sitter.

Then, why should artificial ferns, palms, and flowers be so frequently introduced in the pictures and kept in the studio, when the real things are, if anything, less expensive, and, of a certainty, much more natural? The presence of artificial flowers stamps the studio as something different from a sitting-room, while the presence of real ones lends a charm to the place, and renders it much more pleasant. Have as many plants and sweet-scented flowers as you like as ornaments and accessories, but away with imitations.

Screens are sometimes necessary to obtain effects of light, but I cannot see why studio screens should not be made as like those in ordinary use as possible.

A selection of children's toys is a great acquisition; but there is no necessity why these should not be kept out of the studio until required, as should also be such

accessories as swings, hammocks, boats, masts, stiles, fences, etc. which are only rarely used and the presence of which often makes the studio appear lumbery and untidy.

To keep a studio clean and tidy requires some trouble-taking; it is not sufficient to let the boy sweep it out and pretend to dust it every morning. If the place is to look homely, natural and nice, a woman's hand is required. Let a man or boy be ever so domesticated in his tastes or talents, an average woman, or girl, will obtain a better and more comfortable-looking result in one short half-hour than he will in three or four times that period. Let the proprietor's wife (if he has one, and she is at hand) see that the studio is put right and properly dusted every morning before the operator commences work; and, if there be no wife handy, let one of the young ladies on the premises do the duty for her. A studio nicely and tastefully arranged renders it easier sailing for the operator and pleasanter for the sitters.

The windows of the studio also require cleaning more often than they get done as a rule. Clean windows, both at the side and at the top, not only make the place look better, but they add to the rapidity of the exposures to a much greater and more marked extent than is generally imagined. Nothing looks worse in a dwelling-room than dirty windows, and the same applies equally to the studio. The insides should be rubbed over every morning, and thoroughly cleaned once a week; it is surprising how dirty they will get in a few days, and it can only be discovered by actual experiment what a vast amount of light is cut off, or rather prevented from entering the studio, by dirty or partially cleaned windows. The blinds, especially the white ones, should always be made in double sets, and frequently sent to the wash, as a dirty blind or curtain is more detrimental to rapid exposures than even a dirty window, and the dust and dirt have a way of accumulating on the blinds and curtains very quickly, and in no inconsiderable quantities.

The coloring or decoration of the studio itself is a branch of the subject on which very little need be said here, as utility is the prime question for consideration. I have seen a studio in which all the interior walls were painted a deep chocolate, which had not a bad effect so far as looks were concerned, but was nevertheless, about the very worst color that could have been hit upon for photographic purposes. A medium gray or pale green is possibly the most useful shade of color, being pleasing to the eye and giving off soft reflections.

While it is beneficial to keep down the polish on all articles of furniture likely to be included in the pictures, it is in nowise a necessity that the camera or camera-stands should also be allowed to lose their pristine brightness. By the aid of a bottle of polish and a modicum of that rather rare compound yclept "elbow grease," administered occasionally, they may be kept bright and nice.

NOVEL WAY OF COLORING PHOTOGRAPHS

ALTHOUGH many improvements have been made in color-photography the process is still too cumbersome and expensive, and we cannot do yet without coloring pictures by hand. To the amateur it is a kind of home amusement, to the professional an important branch of his business which he cannot afford to neglect. Whether we use ready mixed liquids or solid color pieces or half liquid mixtures in tubes to be dissolved in water, we must be careful in putting

on the color not too thick and not go beyond the outlines of the places we want to color. Thus, we will make many mistakes at the first time, and like with taking up general photography much of our work is wasted.

A well known German firm, however, has introduced a new way which eliminates most of the difficulties experienced with other methods. They call their outfit "Assur Colours" and have arranged some months ago in their home city Berlin, and later in some other towns, popular demonstrations to introduce both to the professional world as well as to amateurs, their exceedingly simple way for retouching and tinting photographic prints.

A box contains a dozen tubes of various colors, also a large tube of a color-medium which they call "Malmittel." Of the latter you put a little in a porcelain cup while another cup is filled with turpentine. The various colors, such as red, yellow, white, sienna, brown, green, blue, purple, black and intermediate tints you press out in small quantities on a glass sheet and take a little bit of the desired color on a piece of cardboard where it is mixed with the color-medium. This you do not with a brush but with your finger dipped into turpentine after it has been wrapped by some linen rag. On the cardboard you have a chance to see the consistency of the mixture, the right kind of which you find out after very little practice. If too much turpentine has been used, the color spreads out and if the contrary is the case, the mixture is too stiff and can be rubbed over with difficulty only. Again, if you have used too much of the "Malmittel" too high a glossiness will be the result, and it is difficult to work smoothly as the colors smear. One considerable advantage is you need not pay attention to the outlines, for anything beyond them can be easily removed by a paperstump or rag or absorbent cotton wetted with turpentine. A brush is not needed at all except for very small details such as the eyes, mouth, etc., of a portrait. It is well to tint large surfaces first, for instance, the sky in landscapes, the background in portraits, etc. Contrary to other coloring methods our picture is dry in about a minute owing to the presence of turpentine which makes the work clean and pleasing.

Supposing you want to tint a portrait, you have to take up the background first as said before, after which the flesh-tone is rubbed over the entire face. When this is dry you work some red into the cheeks a little, and more into the lips while the whites of the eye are washed out with a stump dipped into turpentine. In this way mistakes can be easily corrected. Besides you may use in the absence of turpentine an ordinary india rubber. By the latter you can work out high lights before the colors are quite dry. If you are late you simply moisten that portion by turpentine. A further advantage is that not only certain portions but the whole picture can be washed off, and more than once, if your attempts are not successful. This happens quite often when putting clouds in, for a beginner will never in any case produce real natural looking clouds right in his first attempt. Mostly ten or more trials must be made, a thing impossible with the pastel, water-color or other processes.

The writer attended the first lecture arranged for by the Berlin concern which lasted two hours, during which all kinds of photographic prints were colored, such as portraits, groups, landscapes, architecture, china, carpets, etc. In addition the outfit can be employed for mere retouching, and this proves especially valuable for pigment papers of any tint and grade for which we had no satisfactory way yet. High lights are, like in the former case, rubbed out with the eraser. A further advantage is that after a few days the colored surface is hardened permanently and cannot be altered any more, thus nobody can spoil a picture by turpentine or rubber if it is kept without glass. The process is available for practically all papers including enlargements, except glossy celloidin prints which, however, are unsuitable for other methods too.

The Assur process became quite popular in Germany and the American agents

Schering & Glatz, New York, as well as Messrs. Zimmermann, in London, were supplied with these outfits. The process preserves the integrity of the print as the colors are transparent, thus the picture is not obscured by heavy masses of colors, as is frequently done.

Some other novelties have been recently introduced here, of which I mention the automatic copying box. This is of oblong shape nearly ten inches long and contains a small filament lamp. At one end inside there is a battery lasting for five hours, and at the top a groundglass, upon which is placed the negative followed by the sheet of paper which may be gaslight or bromide. In printing, the lid of the box is closed, which movement starts the light. By a copying clock which belongs to the outfit we can make a trial print so as to determine the correct exposure if we require a large number of prints. The whole arrangement is rather simple and its use very economical.

Speaking of lamps I may mention the appearance of a new mercury lamp which is being introduced into the German studios. Here tungsten metal is used as the electrodes in place of iron. We know that many experiments were made to avoid the unpleasant green light of the mercury vapor lamp. Cadmium and other metals or alloys of the mercury have proved unsuccessful, either by the breaking down of the electrodes or their action on the glass of the tube. The best light has now been obtained with a quartz lamp which in shape differs widely from the usual long tube, in which a much greater heat is developed. More and stronger lines appear in the red and orange in the mercury spectrum. Wave length measurements of a tungsten arc are not available, but as the light is perfectly white the lines must be strong orange and red ones to combine with the powerful blue-green rays of the mercury arc.

ORTHOCHROMATIC PHOTOGRAPHY AND ITS APPLICATION IN PROFESSIONAL WORK

A Paper read before the Professional Photographers' Congress, Great Britain

BY A. J. NEWTON

THE first item in my syllabus is "The Nature of Light and Color" Properly to describe this would take, of course, very many lectures, so that I shall not attempt to do more than give the most elementary and brief outline of the subject. Moreover, I will ask you to bear in mind that a lecturer is always in some difficulty when lecturing to an audience such as this, some members of which probably know more than he does himself about it. On the other hand, it is possible some members know very little, and if the explanation is not sufficiently elementary they are apt to be disgusted. Therefore I ask those members of this audience who find what I say to be too simple to realize that it is difficult to avoid this, and it is to be hoped that they will bear with me for the sake of the few who would like the matter put very plainly.

Light is of two kinds, that emitted by an incandescent body, as, for example, the sun, or a burning candle, and that reflected from objects all around. It was thought at one time that light was composed of minute particles which were

projected from the luminous body, and that reflected light was these same particles being thrown back again after striking any reflecting surface. But it was soon found that this did not explain all the facts, and since then it has been taken for granted that the luminous body simply provides impulses which are transmitted by means of the hypothetical ether to the eye of the observer. These impulses are transmitted in the form of waves, just in the same way as if you threw a stone into a pond of water ripples would travel outwards from the spot where the stone was dropped in. These impulses, being received upon the retina of our eye, excite the apparatus there, so that we receive the sensation in our brain of light. In the evolution of vision there is no doubt that the difference between light and dark is perceived long before any differences of color; in fact, portions of our eye still only see differences of luminosity or brightness and fail to distinguish any color at all. But gradually the sense of color has evolved so that we have to ask ourselves what color is. The reply is, that if particular wave-impulses of a certain frequency give us the sensation of white light, wave-impulses of different frequency give us different sensations which we know as color. If we get pure colors these waves are of the simplest character. Waves of white light may be analyzed into a large number of simple waves each of which has an entirely different effect. Of all these waves that can be sorted out in this way the eye is only sensitive to a very few. The table on the screen shows you the actual length of the different waves, but in order to help you to realize it better I have here a metre rule, *i. e.*, 1,000 mm. If, now, we take 1 mm. of this rule as representing the shortest wave in the ultra-violet, then a wave of 4 mm. length will represent the limit of visibility where we just begin to see color, 5 mm. the green, 6 mm. the orange, and 7 mm. the infra red, beyond which we cannot see. Now, if we take this rule and diminish the metre length until it is all compressed into 1 mm. we should have the actual size of the waves. Colors, then, are identified by their wave-length, and these are usually spoken of in Angströn units, that is, ten-millionths of a mm., so that the extreme violet is spoken of as wave-length 4,000 and the extreme red 7,000.

I will now project a spectrum and show the visible colors, which, as I have pointed out, are only a small portion of radiations from the sun. If we project white light through a prism or grating we shall have it analyzed into the pure colors. We can prove that no further anaylsis is possible by again passing any particular through another prism, when it will not change again, a red will remain a red and a blue a blue.

So much for the actual nature of light and color. You will have seen that they are purely subjective phenomena, that is to say, that they only exist by reason of a particular receiving apparatus in our eye, and that if this receiving apparatus were not there then color would be invisible, and if this apparatus is at all abnormal then the apprehension of color also differs, and people are said to be "color-blind."

We will assume for the rest of this talk that we are all normal in our color vision, and should agree to call the light of a wave-length 4,000 to 5,000 blue, 5,000 to 6,000 green, and 6,000 to 7,000 red. The next thing we must ask ourselves is, why we see different objects differently colored, and the answer to that is, that they possess selective absorptions. If, for example, white light falls upon a piece of white blotting-paper it is practically all reflected back, and this material therefore has no absorption. If, on the other hand, it falls upon a piece of black velvet the white light is practically entirely absorbed. This exercises no selection, and is therefore not colored, but with most other objects when the white light falls upon them, part of the colors contained in it are quenched or absorbed and the remainder are mixed together and reflected back, and this gives the characteristic color of the object in question. As the object exercises selection on the white light falling on it,

absorbing some radiations and reflecting others, it is said to have selective absorption, and when we know the selective absorption of any material or object we know what its color must be. Thus green grass is green because when white light falls upon it most of the red is absorbed and most of the blue is absorbed and but little of the green, consequently most of the green is reflected back and the characteristic color of the grass is green. If we take a yellow object like a yellow daffodil we find usually that this only absorbs the blue light and reflects back all the red and green; mixed together these give us a bright yellow. It is perhaps easier to make this clear by an experiment with our spectrum, for if we blot out certain portions of this spectrum and mix what is left together we shall have the colors which are due to any particular absorption.

The next thing to ask ourselves is, in what degree of intensity does the eye see various colors, and from very many experiments it has been generally agreed that the greenish yellow light is the brightest, and from there the light falls away in intensity towards both ends of the spectrum. Sir William Abney has given the curve, indicating the varying intensity of the light according to the height of the curve. But this curve will vary according as it is viewed by certain portions of the eye, and also according to the brightness of the spectrum. With a light above a certain brightness it will occupy one position, but as the light gets dim the curve varies so that the maximum is no longer in the same position; this is known as the Purkinje effect.

Now the photographic plate is receiving apparatus for the vibrations set up by luminous objects just the same as the eye is, and the question we have to ask ourselves is, does the plate behave in the same way as the eye in this regard, or how does it differ? On examination we find that a photographic plate differs very considerably, for its maximum, so far from being in the yellow green, is in the violet, and it has the further peculiarity of being very considerably sensitive to the ultra-violet, which the eye cannot see at all. Now it may be asked what does this matter so long as we can take photographs with it, and the reply is that anything that is out of harmony with our usual conception of things appears to be false, and is therefore repulsive to us. If, for example, a light red appears bright to our eye and a deep blue appears dark, it is objectionable to any sensitive person to see it rendered in monochrome with the reds dark and the blues light. I do not think I need labor this point, because it is universally recognized that it is undesirable to have this sort of discordance with our reasonable anticipations, and many efforts have been made to make the sensitiveness of the photographic plate more in accord with the sensitiveness of our eye. The first improvement in this direction was made by Vogel in 1873. The history of this is very interesting, for he received from Mr. Wortley in England some dry collodion plates the films of which were stained with coralline, in order to prevent halation. Vogel discovered that they were color-sensitive and that the increase of sensitiveness was due to the color staining them. He then bathed plates himself and made them color-sensitive. In 1876 Major-General Waterhouse discovered that eosine was a better sensitiser, and later Eder discovered erythrosine. Either eosine was a better sensitizer, and later most exclusively in the manufacture of the ordinary isochromatic or orthochromatic plates. Further improvement was very gradual until Professor Miethe introduced a dye called ethyl red in 1903, and it was found that bathing plates in a solution of this dye conferred a remarkable increase of sensitiveness to the wave-lengths to which the plate was formerly insensitive. After that Dr. König, of Meister Lucius and Brüning, introudced a series of the new dyes which are called iso-cyanines, among them pinachrome, pinaverdol, and pinacyanol, and it is by the use of these dyes it has been possible to make panchromatic plates.

The dye which Vogel used conferred on the plate an extra sensitiveness to the green. The advantage of such a plate was obvious when photographing any colors in which greens occurred. Thus great advantage was shown in photographing yellows, for although such a plate may not be sensitive to pure yellow at all, it is sensitive to the green which a yellow object in nature reflects together with red. A panchromatic plate is sensitive to all colors, but a panchromatic plate is no more sensitive to color as the eye sees it than is an isochromatic or orthochromatic plate; what such plates possess is a big sensitiveness to blue with an added sensitiveness to green and red, and in order to compensate for the still existing excess of blue-sensitiveness it is necessary to use a color filter to compensate for this defect.

With this brief introduction as to the nature of plates and the demonstration on the spectrum camera showing the colors they really photograph, I think I cannot do better than pass through the lantern some comparative results of work done on panchromatic plates, from which each of you will see where such a plate will give you help in your daily work, work which it is impossible to do with the ordinary plate, and must, therefore, either be refused or done imperfectly, both being equally bad from the professional point of view. But if resort is had to the use of a panchromatic plate with a suitable filter it will enable many pieces of work to be undertaken with confidence of good results.

HOW TO MAKE A STUDIO PAY

II.—BUYING AND ARRANGING THE STOCK

BY FRANK FARRINGTON

WITH a good many photographers buying and arranging stock is just a matter of shipping in so many boxes of goods and unpacking the contents and putting them on the nearest shelf or table.

There is no attempt at order and for use or sale the topmost package is always the one taken, sometimes leaving the bottom packages undisturbed while one new lot after another comes and goes and the old goods grow older.

The question of how, when and where to buy deserves much closer attention than the average photographer gives it. Business men, merchants in other lines, realize that goods well bought are half sold. Shrewd buyers calculate on making a profit on the buying end as well as on the selling end of the game.

Of course, the photographer uses up most of his purchases himself but that is no reason for not buying on the most advantageous terms. A penny a pound saved on hyposulphite of soda, or 25 cents a thousand saved on mounts is not a large amount, but it is net profit and worth getting.

The question of whether to buy from manufacturer or jobber is one that can easily be decided on a strictly dollars and cents basis. Supplies that are used in sufficient quantity so that the average purchase of them amounts to enough to make a shipment can be bought from the manufacturer profitably if his price is at all below that of the jobber and the transportation charges from the factory no higher than from the jobbing house.

The advantages of buying from the manufacturer are a possible better price, greater certainty of an order filled complete, fresher goods, and the benefit of being in touch with the house when ad-

vertising helps are wanted, such as show cards, signs, folders, etc.

There is no doubt that the jobber is a great convenience. The existence of a well stocked jobbing house within easy reach of the studio so that shipments can be received within a day or so after ordering makes it possible for the photographer to get along with a much smaller stock than when he must buy supplies for a month or two in advance. The fact must not be lost sight of that a nearby jobber will carry your stock for you enabling you to keep enough supplies on hand by frequent ordering and thus reduce very materially the amount of capital needed to handle the business.

The lower price sometimes quoted by the manufacturer for a direct "quantity" purchase is not always worth accepting because buying in quantity lots means buying farther ahead than you can see. It means that you are very likely to have so much stock that it will outlast the demand, or so that it will keep eating up insurance and interest and producing a depreciation loss until the difference in price becomes inconsequential.

In choosing the source of supplies then, take into consideration all things rather than merely price.

Experience must dictate to a great extent what lines of supplies to handle for your own use and demand should dictate the lines to be carried for sale. There are photographers, and I regret to say it, who form such strong prejudices against some manufacturers because they consider them "trusts" or "monopolists" or what-not, that they will not carry their goods and will struggle along trying to please customers with other lines, in the face of a ready made demand for profit producing goods that could be sold without effort. If you will bite off your nose to spite your face, don't blame anyone for the suffering it causes.

Buy the materials that produce the best results. Don't skimp on the cost of what goes into the production of your photographs. If some other studio is turning out better work than yours with no better workmen, find out in what way they are securing those better results. When they are not competitors they will help you with advice and suggestions. It will pay you to go a visiting among other studios in other towns, exchanging ideas. A week spent in that kind of work every year will bring you actual money returns in the way of new ideas and plans and methods and short cuts far beyond anything you imagine.

The photographer who buys when he gets out of something or when a traveling man happens along with something to sell, cannot buy to the best advantage. Buying only from traveling men means buying when the other fellow wants you to buy—and to some extent at least what he wants you to buy. In buying you should consider not what someone else wants to sell but what you yourself need to purchase.

You need to keep a "Want Book," a blank book in which to write down the names of items of stock that are getting low. This book ought to hang in a convenient place in the stock room and when you take down an item of stock you ought always to notice whether the supply is low or not. Don't wait until you are out of goods to put them on the want book, but put them down as soon as the supply gets a little low. If this plan is carried out you can always tell by looking over the want book what you need and how much, and an order can be made out in a few minutes thus saving time for you at a busy hour when you might find it necessary to send off a hurry order, stopping in the midst of some important work to catch a drummer or the last mail.

The want book makes it possible to add to any hurry, emergency order such other items as are short, without having to stop and go over the stock to find them. In a studio where there are a number of employees it may be difficult to keep the want book accurate. Items may be left off that should go on or items that need not be ordered may be inserted. But in the one-man studio such a book can be kept with perfect accuracy.

One reason why items get onto the want book improperly is the wrong arrangement of the stock. It is very im-

portant that stock be systematically arranged on the shelves.

This means that there must be a place for everything and everything must be in its place. If there is disorder there is overbuying, waste and loss. There is loss because goods in stock in the wrong place will not be found when wanted and customers for them will be sent away with the statement that "We are out of that film today." There will be loss because goods out of place will be forgotten and grow old and shopworn and deteriorate until worthless or until they will not produce good work.

A thousand mounts hidden away in an unknown location may be entirely out of style when found. Films may become too old to sell. Flashlight cartridges may become broken and misplaced and cause fires.

Poor arrangement of stock means overbuying because the manager never knows just what he has. He may think he knows but he does not. If he keeps 5 by 7 plates in two or three different places, he will be buying a case when there is already half a case in hand. If the case that comes in is left unopened in the store room with the thought that it will be better not to open it until needed and two or three empty boxes get piled on top of it, it is entirely possible that the fact that the case was not opened may be forgotten and the stock renewed by an unnecessary duplicate order.

All stock should have its proper place and it should be kept there. There should be shelving that fits the stock to be kept on it. If small articles are kept in stock on big, deep shelves, there will be packages getting shoved back out of sight and packages of one kind will be pushed in behind other kinds and there will be no certainty at any time that the stock is what it seems to be. Arrange for shelving that will show what is in stock, leaving nothing back in the dark corners because there must be no dark corners.

The initial cost of the right sort of shelving is a little more perhaps but the eventual cost is much less. Every merchant who is successful with a retail store knows the importance of the right sort of equipment along this line and it is just as important that the photographer should know it.

Some photographers use their dark rooms as a sort of store room to the extent of keeping plates and developing and printing materials there. If there were no other objection to this, the fact that the room is a dark one is sufficient. You absolutely cannot keep stock in the dark and know what you have or in what condition it may be. It is, of course, necessary to keep enough stock in the dark room to have a supply ready there for use but that is no place for any surplus and the stock in there ought to be little more than the opened packages of plates, papers, etc.

The careless operator realizes very little what the dark room losses of his business are. He does not know what is tucked away in the corners of what, in too many studios, is a handy catch-all with a clear space in the middle left for work. It will pay to have a way to flood the dark room with light occasionally. It will open your eyes to do it.

There is the same reason for arranging the stock of goods in a photograph gallery attractively that exists in any store. Much of this stock is mainly for use in the studio but there is more or less sale for a large number of items and all these items ought to be displayed in a good show case so that everyone coming into the reception room will have an opportunity to note the stock.

This, of course, does not apply to the studio that does a strictly studio business and sells no amateur supplies, but the studios of that sort are few and far between and any studio that keeps supplies for sale certainly wants to increase the business in them.

A good many photographers seem to feel that money spent for new equipment is money wasted, that fifty dollars invested in show cases or reception room furniture never comes back. You perhaps cannot see it come back. People do not walk in and say: "I've come for a sitting because I notice you have a new easy chair in the waiting room." They do not

tell you they are coming to have a picture taken because you have a new background, and yet people are influenced by these things. They hear what a comfortable reception room you have, or they see a picture with a setting they like and they come in for work. People are influenced by your equipment in a direct way as well as by its effect on the work you turn out. They are influenced, too, by the condition of this equipment.

A camera may do just as good work with the brass trimmings tarnished and dust in the corners of the stand it occupies, but your patrons will be influenced in your favor by cleanliness and shiny parts. A large proportion of the customers of the studio are women and women notice dust and cobwebs and tarnished metal when men may not see it.

Keep your equipment spotless and add to it whenever you see a chance to get something that will help you to do better work. Don't wait before making such additional investments to be forced into them by competition. *Read the advertising pages of your photographic journals and when you see something mentioned that promises to help the operator to get higher class results, write and find out about it.* Write to the advertiser and if you want what may seem like a more unbiased opinion, write to the editor and ask him whether he thinks it will pay you to invest. It is the business of the editor of the trade paper to know what is good for his readers. He is competent to act as an advisor.

In the business of framing pictures it is particularly necessary to keep up-to-date. New and improved machinery and tools enable you to do work more rapidly, with less waste of time and less waste of material. Your customers for this kind of work are all the time going out and seeing new effects in ready framed pictures in the art stores and if they bring in their picture to you hoping to be able to get something of the same kind and find that your stock of molding lacks a year of being up to the time, they will take the picture away with them unframed, or at the best they will go elsewhere next time.

Keep in touch with the molding houses and with the matt-board makers, read their advertisements in the journals and read the circulars they send to you. You never know, unless you do this, when you will miss something that may mean a material difference in your receipts.

A HANDY DROPPING BOTTLE

It is not everyone who can accurately measure liquids by drops, nor, for that matter, does every bottle lend itself to this method. When one or two drops only are required at a time it will be found convenient to use a device such as the following. Having selected a suitable bottle to contain the fluid, find a good cork, either of rubber or the ordinary material. With a cork-borer make a small hole through the centre, in which part of a broken glass stirring rod can be fixed with glue or by merely pressing it into a hole too small to take it easily. An extemporized cork-borer is easily made by filing the end of a piece of brass tube (a penholder, for instance) till it is quite sharp. It should be wetted before use—with water for ordinary cork, or methylated spirit for india rubber.

A short length of soft glass tube will answer better. Holding it at either end, bring the middle of the tube gradually into the flame of a spirit lamp or the blue flame of a gas flame, and hold it there till it is soft. If the ends of the tube are then gently pulled in opposite directions, it will be drawn out and finally part, leaving two pieces with pointed ends, either of which may be used in place of the rod. The fine end should be first closed by holding for a moment in the flame. Whether rod or tube is used, the end should not quite reach the bottom of the bottle.

THE USE OF ULTRA-RAPID PLATES

PRACTICALLY all the quicker brands of modern dry plates have been made "ultra-rapid" now, in the sense of comparison with the "extra-rapid" varieties of a few years ago; but most makers produce a still faster plate, of a speed which is excessive, except for legitimate purposes, and plates of this type, of which the Monarch is perhaps the best-known example, require to be used with discrimination if their object is to be served.

The ultra-rapid plate has its uses in summer as well as in winter; it is of great value in focal-plane work, when very short exposures are given, for sports, aeroplane pictures and so on; it enables one to stop down in ordinary snapshot work and so secure a greater wealth of detail; and it makes it possible for indoor portraiture to work with a much softer light, by using muslin or blinds to tone down the top light which, in very bright weather, tends to give hard results.

Ultra-rapid plates should be stored under the best possible conditions both by the chemist or dealer, and by the amateur. Coolness and dryness are the qualities needed in the store-room. If dry plates must be kept in the darkroom —the worst possible place—they should be kept in a tin with a well-fitting lid. For preference they should be kept—especially if the boxes have been opened —in a cool and dry place, well wrapped in stout brown or black paper.

With regard to exposure, we must bear in mind that extremely rapid plates do not possess the latitude of slower varieties. Usually as a plate is made faster its grain is slightly larger, and as a consequence its opacity diminishes. Latitude is largely dependent on opacity, and necessarily dependent on *slowness,* hence we must try to appreciate the real speed of an ultra-rapid plate, and not over-expose it. In cases of under-exposure it will be very far ahead of a slower plate, as long development will not cause the harsh contrasts inevitable in a fine-grained emulsion. It is over-exposure that must be chiefly guarded against, but a discriminate amount of over-exposure, compensated for by extra bromide in the developer, may occasionally be useful where increased contrast is particularly wanted.

To those trying a new brand of ultra-rapid plate for the first time, the following suggestion is offered. Put half a dozen plates in the slides or sheaths, and make six exposures. One with the largest diaphragm, one with F. 8 or F. 11, and another with F. 16 or F. 22. Make three such exposures in sunlight, and three in shadow, in every case using an exposure meter. Develop these plates with the developer recommended by the makers, and watch how they turn out. You will then see, first, if your ideas of exposure are satisfactory, and second, if these exposures, followed by the developer in question, give you the *character* of negative that you require. The greatest success with very fast plates will be obtained when the exposures given are reasonably correct, and it is for this reason that a careful preliminary test is so strongly advocated.

It is very old advice to say, "use the developer that the platemakers recommend." It is also very sound advice, because before any plate is put on the market, it is to the manufacturers' interest to test it with different formulæ and to determine the formula that suits it best.

Provided it be used at a temperature of 56 degrees Fahr. or 58 degrees Fahr., a metol solution containing no restrainer (potassium bromide) will undoubtedly

give the maximum result for a very short exposure, without risk of fog.

The formula is as follows:

Metol	5 grammes, or	60 grains
Sodium sulphite pure crystals) ..	25 "	" 5 drachms
Sodium carbonate (pure crystals) ..	25 "	" 5 "
Distilled water	400 cc.	" 10 ounces

(The grains and ounces are not the equivalents of the grammes and cubic centimetres.)

Development will be complete in about 3½ to 4 minutes with normal exposure, and the gradation will be found excellent. Used above 60 degrees Fahr., this developer is apt to give a little fog, so that solutions and dishes should be cooled in very hot weather.

We come next to the dark room light, which may be entirely dangerous, however safe it may be with slower plates. Bromide paper and lantern plates are usually worked in orange light, fast plates in red. The faster the plate, the deeper the red that must be used to ensure safety. An exceedingly fast plate, no matter how manufactured, shows signs of actual red-sensitiveness, and the dark room light must be real ruby, and must not be too abundant.

The presence of fog in ultra-rapid plates should not be indiscriminately put down to the plates. The trouble should first be looked for in the dark room light, then in the developer, next in the temperature of the developer, and finally, in the conditions under which the plates were stored or kept before they were used.

Ultra-rapid plates are a refinement of photography; refined methods must be adopted for their completely successful use.—*Photographic Scraps.*

A NOTE ABOUT HANDS

HAVE you ever spent sad moments trying to get those hands into position? If not you are a fortunate photographer and have avoided what is a real trouble to the other fellow. Perhaps the vignette helps you out of the difficulty; in confining effort to the "head and bust" the vignette has been a boon and a blessing to the hard-working photographer. One of the greatest difficulties in posing hands has been the nervous consciousness of the sitter; but this fact is, fortunately, becoming a thing of the past. The greatest troubles nowadays are the slight exaggeration of the short focus lens and the belief in many minds that hands are smaller than they really are. Do not let the sitter hear a word about her hands—try to let her forget them. Do not let the hands be placed symmetrically, so that the head looks like the apex of an isosceles triangle. Hands look more prominent on dark dresses than on light ones. A hand may be partly hidden by the folds of a dress, or its size may be apparently reduced by placing it sideways to the camera. If it is a natural pose, a hand supporting the cheek or chin usually looks well. If the fingers are relaxed, the hand looks smaller and more natural than when the fingers are stiff.

Treat each pair of hands on their merits, usually by leaving them to the natural unconsciousness of the sitter, and the difficulties of posing the hands will in a great measure disappear.

MINIATURE CAMERAS AND THE SHORT-FOCUS ANASTIGMAT

BY CHARLES F. RICE

ONCE on a time, so I've been told—and this was not so many years ago—there was in New York City a photographer who used a 10-inch focus, F. 4.5 anastigmat lens for making 8 x 10 portraits. Note the figures—10-inch focus, F. 4.5, 8 x 10 contact prints. This photographer made good pictures and got good money for them. But he had trouble, sometimes, in posing his subjects so as to avoid distortion. If the hand was a little nearer the camera than the head, it would be too big, etc., etc. So the photographer saw a lens salesman and told him his troubles. The remedy prescribed was a 20-inch lens. This necessitated getting the camera twice as far away from the subject. That was inconvenient, but it couldn't be helped. The salesman made it clear that to avoid distortion it was absolutely essential to get the camera farther away from the sitter. 20-inch, F. 4.5 anastigmats are expensive. Could the salesman demonstrate with a trial before the lens was actually purchased, to make sure it would remedy the trouble? No, he had no 20-inch, F. 4.5 anastigmat in stock; and one couldn't very well be imported on approval, either. But the salesman, wise man that he was, told the photographer he could show the same effect as would be given with the 20-inch lens by using the old 10-inch lens on a 4 x 5 plate and then making from that 4 x 5 negative an 8 x 10 enlargement. He did it—convinced the photographer—sold him the 20-inch F. 4.5 anastigmat at something over two hundred dollars—and they all lived happy ever after.

Here's the point. The photographer never realized that it wasn't necessary for him to buy the 20-inch lens. The salesman had proven to him that in order to get rid of distortion the camera must be farther away from the subject, and that to make 8 x 10 contact prints a 20-inch lens was necessary. He had also proven that the old 10-inch lens would achieve the desired result by making an enlargement instead of a contact print. But it never once entered this able photographer's head that he could sell 8 x 10 enlargements to his customers at so much per dozen, instead of contact prints.

By way of contrast with the foregoing, consider the method which prevails in another New York studio that the writer visited recently. Dr. Arnold Genthe is the photographer. He uses a 14-inch lens on a 5 x 7 plate, and then enlarges from a part only of that negative to whatever size the occasion seems to require. If, for instance, he enlarges a quarter of the negative to 5 x 7, the effect is the same as using a 28-inch lens for a 5 x 7 contact print. If he enlarges the same portion of the negative to 10 x 14, the effect is equivalent to that obtained by using a 56-inch lens on a 10 x 14 plate for contact printing. Question—what would a 56-inch F. 4.5 anastigmat cost? But Dr. Genthe accomplishes the same result with a lens of 14-inches focus. His output is entirely enlargements—no contact prints. And what do his patrons care whether they are buying enlargements or contact prints, so long as the pictures satisfy?

All of which leads us to consider the feasibility of making small negatives with the idea of enlarging, as applied to various photographic work. If the amateur with his vest pocket camera can

"TAKE THE SMALL CAMERA ALONG WITH THE BIG BOX"

produce 5 x 7 enlargements that look like contact prints from a 5 x 7 camera, if the inch-square motion picture can be thrown up on a 10-foot screen with good detail; if, finally, Dr. Genthe can satisfy all demands of high grade portraiture with an enlargement from a 3-inch negative—if all this is so, and it is, why doesn't it follow that the general run of photographic practice can be successfully negotiated with the miniature camera?

Three things may be mentioned that have an important bearing on this question—the recent development of the high-class capable miniature camera, the production of apparatus that makes enlarging simple, quick and convenient; and what is an outgrowth of the improved enlarging apparatus—the employment of gaslight paper instead of bromide paper for the making of enlargements.

How it came about that little cameras should be ill-constructed of unsubstantial materials and fitted with inefficient lenses, while large cameras were more accurately made, of better materials, and fitted at least with a rectilinear if not an anastigmat lens—I don't know—but that was the rule until within a few years. I have a theory to account for this. It is that the little cameras were used by amateurs who couldn't or wouldn't pay the price that high-grade equipment of even the smallest size would demand. Besides, the amateur didn't know any better(?). The large cameras were used mainly by professionals who knew what a good photograph was and what apparatus was necessary to make it, and were able and willing to pay the price. There's something else, too. You *can* make some sort of a 2 x 3 picture with an F. 16 fixed focus lens, but what could you do with an 8 x 10 camera equipped like that? As the Jap says, "I ask to know!"

But things have changed as regards the manufacture of small cameras. There are now on the American market a number of miniature cameras whose quality of materials and workmanship, lens and shutter equipment and precision of adjustment are equal to those of any camera, however large and expensive. It may be mentioned, in parentheses as it were, that the best little cameras of the present day cannot be purchased for a song. It is true that the European camera makers have taken the lead in the development of the very small camera. There are a dozen or more different makes of high-grade miniature cameras advertised in the 1913 British Journal Almanac, while so far as I am aware there is not a single American-made camera of truly miniature proportions that can compare with the better ones made "on the other side." That needn't worry us particularly, however, for the best of the European miniature cameras are now regularly carried by American supply houses. There are the Ica, the Goerz, the Ensignette, the Ernemann. Of these, the Ica line is the most extensive, offers the widest choice of models, and I can state from experience that the Ica cameras are most efficient little instruments. The Goerz Vest Pocket Tenax I have also used, and as a high-grade miniature camera it leaves little to be desired. I noticed Dr. Genthe had an Ernemann camera that fitted his hip pocket. Each particular make or model of camera has its own peculiar advantages. I will have something to suggest, later, on what appeals to me as the ideal miniature instrument.

What *are* the capabilities of the modern miniature camera?

Consider their equipment: anastigmat lens of the highest quality working at F. 6.8 or F. 4.5, accurate focusing adjustment from infinity to a distance of a few feet, finely adjusted compound shutter working at all speeds from "time" to 1/250 or 1/300 second. This all applies to the smallest of the miniature cameras—taking a picture about 1¾ x 2⅜. In the next larger size, 2½ x 3½, there is the added adjustment of a rising front, and in some models sufficient bellows extension to permit the use of the single combination of the lens.

The fact is you can do everything with such a camera that you can with a larger camera of similar equipment—and that means practically that you can tackle everything that comes along—portraits,

ENLARGED FROM NEGATIVE 2¼ X 2¼. THIS ILLUSTRATES THE INCONSPICUOUSNESS OF THE SMALL CAMERA. NO ONE CONSCIOUS PICTURE IS BEING TAKEN

groups, interiors, all sorts of outdoor work such as views of buildings, street scenes and landscapes. The only two sorts of work that occur to me for which the miniature camera is not adapted are extreme high-speed work and wide-angle views. As for high speed—faster than 1/300 second—that is only a matter of having fitted a faster shutter. And in regard to wide angle work—I will have something to say about that later.

Contact prints from miniature negatives are wonderful little pictures—tiny jewels. But they are too small for practical use. One can't see half that is in them without a microscope. And so, enlargement is a necessary part of the process of working with the miniature camera. An accurately focused anastigmat lens sees much finer detail than does the unaided human eye. Indeed, a 5 x 7 enlargement from a 1¾ x 2⅜ negative will still show detail that is a little too fine for the eye to perceive without looking closely. I claim that as far as detail only is concerned 5 x 7 enlargements from miniature negatives are equal for all practical purposes to contact prints from 5 x 7 negatives. It would be idle to say that the detail in the enlargement is as fine as in the contact print. It isn't so fine, of course; but it is fine enough so that even experienced photographers are not sure which is a contact print and which an enlargement of the same size from a smaller negative, when they are seen side by side.

Detail isn't everything. Haven't you all read advertisements of the soft-focus lenses that are claimed to "see as the eye sees"? And while I should certainly consult an oculist if my eyes saw things the way they look in some of the "fuzzygraphs" turned out with the soft-focus lens; yet it is true that in large portraits, for instance, the microscopically sharp picture is painful to look at. You can see every pore in the skin—almost see the blood vessels under the skin—so that the result is more an anatomical study than it is a likeness. Right here is where the miniature camera comes in. No matter how sharp the original negative may be, the enlargement may be made as diffused as desired. Dr. Genthe does enlarging with a soft-focus lens. But the original negative he makes with a sharp focused anastigmat.

Depth of focus, or depth of field, is a quality in which short-focus lenses excel —not only relatively but actually. That is to say, a 5 x 7 enlargement from a negative made with a 3-inch lens will have much greater depth than a 5 x 7 contact print from a negative made with a 7-inch lens—both lenses being used with the same relative aperture, F. 6.8, for instance. You wouldn't think that would be true, but it is. I am not enough of an optician to explain the why and wherefore of the case, but this I have observed—that using a 3-inch lens, a 4¾-inch lens and a 7-inch lens, all at a distance of three feet from the subject photographed, the 3-inch lens was but 1/12 of its focal length in front of the infinity mark, the 4¾-inch lens was 1/9 of its focal length in advance, while the 7-inch lens had to be displaced 1/7 of its focal length. This depth of focus is an important matter, as all of you know who have had occasion to photograph subjects whose nature called for a large lens opening and yet where different parts of the subject were at different distances from the camera. A concrete example that will appeal to everyone is the portrait, a large-size head, made with a very fast lens at rather close range. If the eyes and nose are sharp the ear will be all out of focus. That isn't the way the eye sees it, at least my eye doesn't. Of course the difficulty may be overcome, as was that of the photographer first mentioned, by buying a 20-inch lens and getting farther away from the subject. But the same or a better result can be obtained by a short focus lens, with subsequent enlarging, and you don't have to get so far away to get depth of focus as you do with the long-focus lens. Here, again, is where the miniature camera shines.

Compactness and portability—small size and light weight—are the considerations which I suppose more than any other led to the development of the very

the prints intended for the l
reason for the difference in i
the prints is that with hypo-
cold, there is considerable r
the toning process, while w
prous bromide method the o
of gradation remains practi
tered after toning is comple
wise the two toning processe
similar results.

The toning agents employe
periments were (1) hypo-alu
cuprous bromide, followed
sulphide.

How the Hypo-Alum w

The toning solution is pre
lows: Ten ounces of sodi
phite are dissolved in sevent
boiling water, then one ou
dered alum is slowly added
stirring. The solution will b
and must not be filtered, and
by allowing two or three w
prints to soak in it for a d
ripen it. The developed,
rinsed print is put in this s
cold, and is withdrawn whe
color is obtained. This wi
twelve to twenty-four hour
time, and probably two or
the winter time.

Cuprous Bromide and Sod

Three solutions are req
lows: No. 1, Copper s
grains; potassium bromide
water, 10 ounces. No. 2, n
drops; water, 10 ounces.
sulphide, 1 ounce; water, 1
use add half to two and a

It does not pay to beli
tor. One of the worst hab
tivate is contempt for the
Too much looking at one's
false opinion of one's wo
are patting ourselves on

nded for the latter. The difference in intensity of ıat with hypo-alum, used considerable reduction in ıcess, while with the cu- method the original scale remains practically unal- ıing is completed; other- ɔning processes give very

gents employed in the ex- (1) hypo-alum and (2) de, followed by sodium

ypo-Alum was Used

ɔlution is prepared as fol- nces of sodium hyposul- ved in seventy ounces of then one ounce of pow- owly added with constant ɔlution will be milk white filtered, and is improved ɔ or three waste bromide n it for a day or two to developed, fixed, and ɔut in this solution, used ıdrawn when the desired d. This will take from y-four hours in summer bly two or three days in

le and Sodium Sulphite

ns are required as fol- Copper sulphate, 200 m bromide, 200 grains; No. 2, nitric acid, 100 ɔ ounces. No. 3, sodium e; water, 10 ounces (for wo and a half ounces of water). The developed, fixed, washed, and alumed print is placed in No. 1 till the image disappears as far as possible. This will be effected in about three minutes, after which the print is rinsed under the tap for a few seconds and transferred to the nitric acid solution (No. 2) for five minutes. After washing for five minutes, sufficient quantity of No. 3 sulphide solution is poured over the print, when the image will at once rush up. To ensure permanency, the print is allowed to remain in the solution for a minute after toning appears to be complete, and is then washed for half an hour in frequent changes of water.

Results

The differences in color are not so apparent by artificial light as by daylight, but, as a matter of fact, no two prints by each process are alike. It is worthy of note that the effects produced by each toning agent are very similar with any given developer. Amidol seems to produce the coldest, and hydrokinone the warmest tone, the range of colors progressing in the following order from cold to warm: Amidol, metol-hydrokinone (a most pleasing tone), rodinal, metol, ortol, pyro-acetone, ferrous oxalate, and hydrokinone. The three latter developing agents give quite different results from the others. Personally, Mr. Gates preferred the colder tones, particularly that given by metol-hydrokinone. Of the warmer tones, he gave the preference to that produced by ferrous-oxalate, and observed that he thought that a sufficient range of colors is produced to satisfy very different tastes.

LIVE AND LET LIVE

ıy to belittle a competi- worst habits we can cul- ɔt for the other fellow. g at one's self creates a one's worth. While we elves on the back, our competitor is busy planting mines under our defences. No man in any line ever cornered all the good things. Your most hated rival may be a shrewder business man than you. Let us be sure that our disdain for him does not come from

wounded vanity. There is no man under heaven so easy to deceive as one's self.

Someone said, the other day, that when you get so you cannot recognize your own inferiority to that of your competitor, it is time to quit. The man who wins is the man who is always ready to recognize and improve on the best things in his competitor's line. Your healthiest mental condition is when you feel so small you could be traded for a three-cent piece. Business is more in need of humanity than bluff. The humble man is in the attitude of acquiring knowledge. So long as I am dissatisfied with myself, I can learn from you. We are obliged to take off our hats to our competitors every day in the week. The more they beat us, the more rapidly is the day approaching when we will beat them. With every order you lose, you learn something about going after the next one and landing it. Thank heaven, we do not land every order. We would go to pieces in five years. Rome flourished most after her defeats; she decayed after she subdued the world.—*Harris Monthly.*

TONING BROMIDE PRINTS

THE bromide prints are developed in the usual manner with the formula of hydroquinone and metol, fixed, well washed, then submitted to a bath of weak bichloride of mercury until bleached, or in the following method:

STOCK SOLUTION.

Bromide of potassium	20 parts
Sulphate of copper	20 "
Water	100 "

For use, take one part of this and dilute with 10 parts of water. With some varieties of paper the bichloride of mercury is very difficult to wash out, which is not the case with the copper bleacher.

After the prints have been bleached by either method they are well washed and submitted to a second development with weak rodinal solution (1-100). It will readily be seen that in the first development the operation should not be carried to the full degree, otherwise the second development will render the prints too intense.

The bichloride of mercury solution is allowed to operate only until the deepest shadows of the print begin to bleach. If this precaution is not taken, on the subsequent development the shadows will be too much clogged.

The second development or blackening of the image is best effected by daylight, as the tone can be better judged than in the yellow or red light of the dark room.

If the dilution of the rodinal bath is properly adjusted a variety of tones can be secured, beginning with reddish-brown and passing by rapid gradations to brown and bluish-black.

As soon as the desired tone is reached the print must immediately be taken out and washed in water, placed in the hypo bath for a few minutes, and finally well washed.

If the image in the second development comes out too strong it may be reduced with the well-known Farmer's reducer (ferricyanide of potassium and hypo), but it is necessary here to use great care, as the half-tones are liable to suffer, being attacked more vigorously by the reducer than by the deep shadows. A few seconds will generally suffice. A weak solution of perchloride of iron and citric acid frequently acts more uniformly than the ferricyanide and hypo. The formula is: Perchloride of iron, 60 grains; citric acid, 120 grains; water, 32 ounces.

In both cases watch closely the action, and remove the print as soon as the proper degree of reduction is obtained.

The advantage of this process of toning over many others consists in the ease with which uniformity of tone is secured in dealing with many prints.

PLATE I

BY MAY L. SMITH, BINGHAMTON, N. Y.

ILLUSTRATING SIDNEY ALLAN'S ARTICLE

PLATE III

BY MAY L. SMITH, BINGHAMTON, N. Y.

ILLUSTRATING SIDNEY ALLAN'S ARTICLE

PLATE V

BY MAY L. SMITH, BINGHAMTON, N. Y.

ILLUSTRATING SIDNEY ALLAN'S ARTICLE

PLATE IV

BY MAY L. SMITH, BINGHAMTON, N. Y.

ILLUSTRATING SIDNEY ALLAN'S ARTICLE

PLATE VII

BY MAY L. SMITH, BINGHAMTON, N. Y.

ILLUSTRATING SIDNEY ALLAN'S ARTICLE

PLATE VIII

BY MAY L. SMITH, BINGHAMTON, N. Y.

ILLUSTRATING SIDNEY ALLAN'S ARTICLE

PLATE IX

BY MAY L. SMITH, BINGHAMTON, N. Y.

ILLUSTRATING SIDNEY ALLAN'S ARTICLE

ENLARGED FROM 1⅞ X 2⅞ PLATE NEGATIVE, $\frac{1}{10}$ SECOND EXPOSURE F/6.8, 5 TIMES RAY FILTER, ORTHONON PLATE

SEE "MINIATURE CAMERAS AND THE SHORT FOCUS ANASTIGMAT"

CINEMATOGRAPHY FOR THE LOCAL PHOTOGRAPHER

THE CAMERA

BY ALFRED H. SAUNDERS

THE subject this month is the camera. The questions naturally arise in the mind of the reader: What sort of a camera is the motion picture camera? How am I to know how to select one suitable for experimental work, and yet one on which I can rely to give good results?

The photographer is here confronted with the problem of cost.

The camera for cinematography differs from the professional photographic apparatus used by him in his every-day work in the studio or field, differing in appearance, mechanism, lens and method of use.

It will be well to assume that the majority of photographers have not seen a cinematograph camera, and to go into some details of its construction and the various methods adopted to give the necessary motion required to take negatives. In size, motion picture cameras vary from 18 x 18 x 6 inches, in the professional model, taking 400 feet of negative film, down to the amateur size, 8 x 8 x 5 inches; adapted to lengths of 100 feet of film. For general work the film manufacturers, Eastman Kodak Co., Lumiere and Austin Edwards, pack in tin cans 200 and 400 feet, of stock. Two hundred is the usual length, and in ordering it is advisable to specify length required. Other makers pack 100, 150, 200 and 350 feet. This film is transferred from the cans to the light-tight film boxes or holders in the camera.

The camera, to give a simple illustration, is an enlargement of the pocket kodak. Just use your imagination for a moment, and fancy you have a small edition of the kodak taking pictures postage stamp size, built to give fully exposed pictures with extremely short exposures, fitted with a roll holder carrying 2,000 exposures instead of 12, then you may get some idea of the principle involved. If you put a handle where the thumb roll turn screw is, and continue turning until all the film is used, unless you have a mechanism adapted to the kodak which gave exposures by a constantly opening and closing shutter at each turn of the handle. Instead of having secured 2,000 pictures of the cinematograph size (1⅜ x ¾ inches) the result is 200 feet of blur.

To overcome this difficulty various devices are used to give a rapid succession of pictures with the necessary stops between each one. The film may be moved continuously, using special methods and devices for exposure; by intermittent motion with eccentric or reciprocal movement; or with rollers having sprockets or with claw mechanism. The two latter are used in combination by all the principal camera manufacturers today.

The film after insertion in the upper box passes from this through an aperture at bottom, over a sprocket wheel at the top of the camera, through the film gate to the aperture for exposure, and is drawn down intermittently by the claws which advance the film just three-quarters of an inch after exposure, the film is then carried to the sprocket at the bottom of the camera and rewound in the lower film box.

There are several makes of camera, notably the "Urban Professional," which is the universal model of all others, War-

wick, Prestwich, Lumiere, Pathè, Ernemann, Williamson, Jenkins and Dressler. With the exception of the last two, these cameras are made abroad and all are reliable apparatus.

The price of these cameras vary from $550 for the Urban, Warwick, Prestwich, and Lumiere. Pathè's cost $475, Ernemann $300 and $250, Dressler $200, and Williamson $150, this latter carries only 100 feet of film in each magazine. Williamson also makes professional cameras, listed at $350 and $260, respectively.

It will be well at this point to warn intending purchasers that some of the above cameras (foreign made) are being "duped." That is, some makers in New York City are copying the mechanism of the Warwick and Prestwich, and turning out much inferior cameras to the original, calling them "bum" Prestwich, or "bum" Warwick, as the case may be.

It is not at all difficult for the expert to detect the fraud and instantly reject the "bums," owing to the inferior workmanship, the incorrect cutting of the sprocket wheels, the uneven working of mechanism and other defects. To the tyro, these "bums" appear as excellent cameras, and the price, $200.00 (half the cost of the original makers), appeals to his pocketbook. Aided by the plausible arguments of an oily tongue with "just as good," and "see what you save," the deal may be consummated to the ultimate chagrin of the buyer who has no redress. Sometimes they are fitted with an inferor make of lens, working under license from the original manufacturer. The original lenses are very easily obtained and fitted to an original camera, give perfect results; thus assurance is doubly assured.

It may be taken that this advice is against purchasing a camera at a reasonable figure, say $200 and that the highest priced apparatus only should be secured; not so, if the photographer can afford it, he should purchase at all times —quality—even high priced, in preference to—quantity—however low priced, it is economy in the long run.

There are on the market cameras that conform to all requirements, which owing to their simplicity of construction, good workmanship and perfection of results are worthy of note. They comply with the desire for a good camera at a reasonable price. In this connection may be mentioned the Dressler, Ernemann, Jenkins and Williamson.

A few special points should be brought fully to the notice of the reader, those who understand the subject will pardon, on behalf of the tyro, the remarks that may seem simple to them, and bear in mind that many know but little of this subject.

The camera must especially possess these two features: A well-balanced intermittent movement, acting in unison with the crank, and a shutter of as simple a construction as is consistent with proper aperture and admission of light. Some shutters are adjustable, giving a variable ratio between the open space and the opaque portion of each revolution of the shutter, thus giving more or less exposure on the film.

It is a common practice in the selection of a lens to buy one with the largest opening it is possible to obtain and to make the shutter opening as small as possible, so that the exposure is always as short as the lighting of the subject will allow. This brings into use the variable shutter, open or closed, in proportion with the brilliancy of lighting and the subject. In this manner the lens is used with its largest possible aperture, straining its defining power and restricting its focal range, making fuzzygraphs of all beyond a certain distance.

On the other hand if a fixed aperture shutter is used (fully recommended from long practical experience) and the lens stopped down, all parts of the view, both distant and near, may be kept well in focus, while rapidly moving objects will be caught in fair detail, but with slight blurring of the edges. By practice these difficulties will be overcome.

This article will be continued in December issue with illustrations of other cameras mentioned.

TRANSLATIONS AND ABSTRACTS

BY E. J. WALL, F.R.P.S.

Brown Tones Direct

Herget summarizes the various methods of obtaining sepias and browns on development papers and recalls Bachrach's method of using metol-hydroquinone in two separate solutions.

A

Metol	45	31.5 grains
Sodium sulphite anhyd.	48	336
Hydroquinone	4.5	31.5
Water	1000	16 fld. ozs.

B

Acetone	75	525 minims
Water	1000	16 fld. ozs.

Immerse the print in A for 30 seconds and then in B for 30 seconds.

Herget states that the following plain solution of pyrocatechin gives excellent brown tones on development paper:

Pyrocatechin	2% sol.
Carbonate of soda (anhydrous)	5% sol.

For use mix in equal parts.—*Wien. Mitt.*, 1913, p. 513.

The secret of obtaining brown tones is the omission of sulphite from the developer so that some of the oxidation product is precipitated in situ on the silver. Precisely the same thing occurs with a plain pyro solution, and if the silver image be dissolved an image consisting only of the pyro stain can be easily seen. Unfortunately pyro has a great tendency to stain the paper. Sulfinol, the most recent developer also gives this stain image even in the presence of sulphite.

Fine Focussing Screens

The old idea which may be useful to some, of making a very fine focussing screen is revived. Expose an ordinary plate, preferably a very slow one for a very short time then develop, preferably with amidol, till faintly grey all over, fix and wash. Then immerse in a solution of iodine in potassium iodide till the fog image is converted into silver iodide, rinse and immerse in a 5% solution of ammonia till all iodine color vanishes, then wash and dry and varnish. It is stated that such screens can be used without a focussing eyepiece. Two or three grades should be made by varying the duration of development.—*B. J.*, 1913, p. 683.

I cannot agree with the editorial writer, that these screens can be used without an eyepiece, but this is probably dependent on my sight, as I always have to use a magnifier. I have used these screens for years and we have one in use now but all my students have to use an eyepiece. The fineness of the grain is so great that focussing is very easily effected. They are easily made, cheap, and especially suitable for photomicrography, etc.

Stains for Prints

Keiser recommends the use of the following dyes for staining prints instead of using colored papers:

Alizarin saphirol, for delicate blue tones.

Naphthol green B, for delicate green tones.

Chloramin brown G, for delicate brownish tones.

Paper fast Bordeaux B, for delicate blueish-red tones.

Brilliant crocein 3B, for yellowish-red tones.

Fast light yellow 3G, for yellow tones.

For use, one part of the dye should be dissolved in 10,000 parts of water, and the print immersed therein till the desired tint is obtained and then blotted off and hung up to dry. Intermediate tints should be obtained not by mixing the solutions but by immersion of the prints first in one color and then in the other. —*Phot. Wochenbl.*, 1913, p. 169.

The Conversion of Negatives into Positives

E. Sch recommends the conversion of the negatives obtained for three-color work, direct into positives and states that the results obtained are fully equal to those obtained by making the positive by contact from the negative. The exposure should be double the normal and developed with the following:

Metol	15 g.	105 grains
Sodium sulphite	120 g.	840 grains
Potass. carbonate	75 g.	525 grains
Water	1000 ccs.	16 fld. ozs.

For use mix with an equal quantity of water. The development must be prolonged till the high lights are distinctly seen on the back of the plate, which will probably take 7 to 10 minutes. The plate should then be washed without fixing, and immersed in

Glacial acetic acid	75 ccs.	525 minims
Water	1000 ccs.	16 fld. ozs.

for a short time and then washed for 20 minutes and immersed in daylight in

Potass. bichromate	10 g.	70 grains
Nitric acid	50 ccs.	350 minims
Water	1000 ccs.	16 fld. ozs.

from 3 to 4 minutes or till the whole of the metallic silver has dissolved. Then wash and immerse in

Ammonia	40 ccs.	280 minims
Potass. bromide	40 g.	280 minims
Water	1000 ccs.	16 fld. ozs.

then wash and develop with the developer given above and fix.—*Phot. Chrom,* 1913, p. 498.

Prints in Two Colors

A. Le Mee suggests the following method for obtaining two-color prints: From the negatives taken through the orange screen print on blue print or cyanotype paper and develop in the usual way, then paint the print over with potassium ferricyanide, 25% solution, dry and print under the blue screen negative, taking care to obtain coincidence of the outlines, then paint the surface with a solution of uranyl acetate, rinse and dry.— *Phot. Rev.*, 1913, p. 90.

Reducing Autochromes

Ritter von Schrott states that he has not been successful in reducing autochromes with Farmer's reducer, and, finally, found the following to be the most satisfactory. After reversing the image wash thoroughly so as to ensure that the whole of the acid permanganate solution is removed from the film. Then take two dishes, one filled with plain water and the other with weak potassium cyanide solution, about 1 part of a 2½% solution to 30 to 50 parts of water. Immerse the autochrome by daylight in this solution and watch the reduction carefully, examining the plate from time to time by looking through it, rinsing the plate in the clean water before doing so. It is immaterial whether the plate be dried after the reversion or reduced at once.—*Phot. Korr.*, 1913, p. 397.

Instantaneous Radiographs

Dessauer of Frankfort, has succeeded in obtaining X-ray photographs in 1/3000th of a second, and has thus been able to obtain single movements of the heart, the chest walls in breathing and has also obtained a motion picture film of the beating heart. No details are given.—*Phot. Korr.*, 1913, p. 426.

Speaking Pictures

Eugene Lauste has perfected a new method of synchronizing sound and movement, which he describes as follows: all about the scenery are concealed little microphones, each of which has a radius of 40 feet and is so sensitive that it can easily record the sound of striking a match. A special film, double the width of the ordinary is used. The left half bears the ordinary series of pictures, whilst the right half bears the sound waves converted into a sinuous line, the amplitude of the vibrations agreeing with the shorter or longer sound waves. The positive from this film is placed in a special projector. The wave of light which passes through the sound side of the film passes through a special screen, composed of tuning bars, which are so small that the eye can just perceive them. The action of light on them is to cause them to swell so that they touch and they communicate an electrical sound wave to the apparatus working the megaphone. According to whether the light waves make the bars touch for a short or a long period, the tone of the sound waves varies. The difference in velocity of the light waves is compensated for in the apparatus. The electrical waves sent out by the screen also open and shut small air valves, through which a current of air is pumped, this intensifying the sound transmited by the megaphone.—*A. P.*, 1913, p. 272.

Stand Development and Fixing

Cremier suggests the following method of simultaneous development and fixing, as especially useful for amateurs and beginners:

Amidol	2.25 g.	16 grains
Sodium sulphite (anhydrous)	6 g.	42 grains
Distilled water	1000 ccs.	16 fld. ozs.

Dissolve and add

Hypo, 20% sol.....	15 ccs.	105 minims

It is advised that the plates should be placed in the tank full of developer at night and left till the next morning, when they will be found to be perfectly developed and fixed.—*Wien. Mitt.*, 1913, p. 473.

A somewhat similar method to this, only with pyrocatechin as the developing agent was recommended about four years ago and a practical trial resulted in a beautiful example of green fog, with extraordinary streaks and markings. If stand development is adopted at all the tank must be shaken two or three times so as to distribute the bromide set free during development, otherwise it will fall down the surface of the plate and cause distinct lines of lesser density.

Development With Amidol

At a recent meeting of the Societé Française de Photographie the question was raised whether the so-called deep development of acid amidol was not due to diffusion of the developer in the gelatine film, and Balagny placed a thin sheet of gelatine over an exposed plate and developed it, so as to prove whether the developer would act under this gelatine sheet. The result was that the part of the plate covered by the gelatine showed greater density. It might be assumed from this that the diffusion through the gelatine made the developer more active, but it might also be surmised that the gelatine contained traces of some impurity which increased the activity of the developer. —*Bull. Soc. Franç.*, 1913, p. 121.

Yellow Spots in Prints

Gaslight and bromide prints which through under-exposure and forcing in development are yellow may be cleared by immersion in a 1% solution of potassium permanganate, then washing till the water no longer shows any color and immersion in a 3% solution of potassium metabisulphite.—*Phot. Ind.*, 1913, p. 1274.

A Paramidophenol Developer

Desalme suggests the following method for making a highly concentrated paramidophenol developer, that may be useful for tourist work:

Paramidophenol hydrochlorate ..... 75 g.
Hot water .....700 ccs.

Dissolve, and if the solution is not colorless it should be shaken up with

Animal charcoal .....10 g.

for a few minutes and filtered then add

Sodium sulphite (anhydrous) ..... 5 g.
Sodium carbonate (anhydrous)..... 35 g.
Warm water .....200 ccs.

This causes a heavy white precipitate of the paramidophenol base, which should be filtered out when cold by means of a clean linen cloth, the filtrate is valueless of course. The precipitate should be allowed to drain well till its volume does not exceed 300 ccs. and placed in a graduate and

Acid sulphite lye 23° Be.....100 ccs.

added and then caustic soda solution 40°Be added till the precipitate dissolves and a perfectly clear solution obtained. The total bulk of the solution should then be made up to 500 ccs. For use this should be diluted with 30 to 40 parts of water.—*Bull. Soc. Franç.*, 1913, p. 113.

Paramidophenol is the base of rodinal. Acid sulphite lye is the commercial solution of sodium bisulphite. For those who may not happen to have a Beaume hydrometer, a saturated solution of caustic soda may be made up and added a few drops at a time till the solution becomes clear.

Self-Toning Papers

An anonymous writer details the results of his experiments with this paper, which is much more general in use on the other side than here. A print immersed for 10 minutes in a 5% solution of sodium sulphite and then fixed in 10% solution of hypo turns a warm, brown tone. A preliminary bath of a 10% solution of sodium carbonate gives a dark brown, slightly redder tones being obtained with a 5% solution of sodium acetate, or 10% solution of ammonia. A 5% solution of tartaric acid, or a 10% solution of Rochelle salts, or a 7.5% solution of ammonium carbonate, or a 10% solution of potassium carbonate give cold brown tones, but the details in the high lights are slightly eaten away. A 0.1% solution of lead acetate acting for 10 minutes gives a blueish tone, and a 5% salt solution gives blueish tones with a brown tinge. Distinct blue tones are obtained by the action of a 5% solution of potassium bromide for five minutes; the longer this is allowed to act the colder the tone. Blue-black tones are obtained by immersion of the print for ten minutes in a 1% solution of ammonium sulphocyanide. A 2% solution of potassium iodide gives a violet tone.—*Phot-Woche*, 1913, Heft, 48.

Self-toning papers are, as is probably well known, of the printing-out variety and contain some salt of gold. Many of them also contain a lead salt, so that the above statements must not be considered to apply strictly to every make of paper. The experiments are useful, however, as pointing out methods for obtaining variations of tone.

Studio Shades

There is a firmly established custom as to the color of the shades in a studio, they must be dark blue and the reason for this is that in the old days, the plates used had only blue sensitiveness and consequently the shadows of the pictures were less harshly accentuated. Max Frank raises the question as to whether now, considering the quantity of color sensitive plates used, the shades should not be yellow and suggests that if they were of the latter color the rendering of the skin, etc., would be much improved, especially in the shadows.—*Phot. Chrom.*, 1913, p. 453.

This question has been raised several times and it has been conclusively proved that a yellowish illumination is superior but custom is strong and the same methods prevail.

The Resolving Power of Plates

The resolving power of a plate is its power of defining fine detail, or in other words its power of differentiating between two closely contiguous lines. Goldberg has examined this question and comes to the conclusion that the resolving power is dependent on two factors, one of which he calls the turbidity factor and the other the resolving limit, which is dependent on the different degrees of sensitiveness of the individual grains of the emulsion. The turbidity factor is practically the measurement of the optical turbidity of the emulsion. The following are Goldberg's conclusions. If a perfectly sharp negative is required, when using a poor objective, a hard working emulsion and slow development should be adopted. The same also applies when using good lenses the optical properties of which are reduced by the interposition of poor prisms and filters. The resolving power of the plate is of no moment in such cases, as the optical defects are greater than those of the plate. If the central rays of a good lens are used and fine line drawings are to be reproduced the turbidity factor may be neglected, the exposure should be short and the resolving power of the plate is the only factor to be taken into considera-

tion. If fine lines or points or varying intensities are to be reproduced with a good lens, as in stellar and spectrographic work the difficulties increase. The turbidity factor is then the main factor in want of sharpness. The exposure must be long for the faint intensities, with the result that they will be smothered in the film by the broadening of those of stronger intensity. The plates to use in this case must have as low a turbidity factor as possible, for instance, photomechanical or transparency plates, without any regard to their resolving limit.—*Zeit. f. Wissensch. Poto.*, 1913, p. 77.

Development of Gaslight Papers

Mente advises the use of the following methods for the development of gaslight and bromide papers. The first developer should consist of:

Pyrocatechin	1 g.	7 grains
Hydroquinone	1 g.	7 grains
Sodium sulphite	30 g.	210 grains
Citric acid	0.75 g.	5.25 grains
Potass. bromide, 10% sol..	6 ccs	42 minims
Water		1,000 ccs.

Several prints may be immersed in this and left for two or three minutes, those which show sufficient details in the high lights may be allowed to develop to full intensity in this bath, whilst those which do not show enough detail should be rinsed on both sides and immersed in

Eikonogen	10 g.	70 grains
Sodium sulphite	60 g.	420 grains
Water	1000 ccs.	16 fld. ozs.

Prints from harsh negatives should be developed in this latter solution, whilst those from soft negatives should be developed in the former. As a rule these developers give brownish tones which are very pleasing for portraits.—*Atelier des Phot.*, 1913, p. 103.

Uranium Toning

Lux has been reviewing the various methods of toning prints with uranium and suggests that their impermanency is due to the presence of the silver ferrocyanide left in the image. Namias, Clerc and others have pointed out that whilst hypo would naturally dissolve this, it also attacked the uranium toning. Mente now states that provided a weak acid fixing bath be used it has no action on the uranium image. The bath he recommends is:

Hypo	25 g.	175 grains
Potass. metabisulphite ..	8 g.	56 grains
Water	1000 ccs.	16 fld. ozs.

This bath should also be used for prints toned with copper and iron—*Atelier des Phot.*, 1913, p. 110.

So far as I can find the use of this weak acid fixing bath for uranium and copper toned prints is quite new and it is possible that its use might obviate the iridescence that always makes its appearance in time on such prints.

Sulphur Toning With Colloidal Sulphur

Lumiére and Seyewitz have already pointed out the possibility of toning bromide and gaslight prints by means of colloidal sulphur produced by the action of an acid on hypo in the presence of glue or dextrine. The action of this bath was very slow and they now suggest that the image bearing film itself should take the place of the protecting colloid, and advise that the print should be taken from the fixing bath and without rinsing immersed for 30 to 40 minutes in a 1% solution of hydrochloric acid at a temperature of 60—65° Fahr., and that then the print should be washed for about 1½ hours when the final color is obtained—*Phot. Woch.*, 1913, p. 349.

This process would seem to be founded on an entirely wrong basis. A print as it comes from the fixing bath carries not only its silver image but a film of gelatine which is impregnated throughout with the double salt of hyposulphite of silver and soda. This must also be decomposed by the weak acid and colloidal sulphur must be distributed throughout the film as well as on the image places and it could not diffuse out of the gelatine film. Whether any damage would result from this is an open question, but I should certainly suppose that in time the whites of the prints might take on a decided tinge due to the deposition of silver sulphide, from the decomposed double silver and soda hyposulphite.

Solar Photography

In 1871, Father Secchi of the Observatory in Rome expressed the view that the mean diameter of the sun varied and this has now been confirmed by a series of measurements made by Father Chevalier on a series of negatives taken during the last five years at the observatory of the Jesuit Fathers in Zo-se (China). Apparently the polar diameter is greater than the equatorial, the difference amounting to about 19 seconds of arc or one ten-thousandth of the diameter, which is equal to 69.5 kilometers.—*Photo. Revue*, 1913, p. 43.

The Enamel Process on Zinc

Namias points out that a fish glue enamel will withstand the action of 2% nitric acid if the zinc plate is kept for some time at a temperature of 150°, the usual temperature for burning being 250°. Such a high temperature as the latter frequently causes crystallization of the metal with consequent short life of the block. The image at the lower temperature is scarcely visible and it is advisable therefore to immerse the plate for some minutes in a 2% solution of potassium permanganate which is decomposed giving a deep brown image of manganese peroxide, which can be easily seen and resists the heating well. —*Le Procédé*, 1913, p. 127.

PHOTOGRAPHY IN GREAT BRITAIN

A Review of the Month from our own Correspondent

London, October, 1913.

THE first series of lectures which immediately follows the exhibition of the Royal Photographic Society marks the opening of the lecture season here. Close upon a dozen lectures by members of the "R. P. S." have already been given and the prominence accorded to them by the Metropolitan and Provincial daily newspapers is a reassuring and significant indication that our art and science is presented to the general community at something like its true value and importance.

Preparations for a Busy Winter.

At the precise moment no fresh exhibitions —by this I mean exhibitions of international importance—have been opened and the "Royal" and "Salon" continue to uninterruptedly attract amateurs and professionals from every quarter of the country. The London Camera Club announces that next month a one-man show of literary celebrities portraits by Mr. Hector Murchison will be held, while at the "A. P. Little Gallery," in Long Acre, there is already an exhibition of landscape work by the principal workers in the Eastern Counties. Beyond these the horizon is remarkably free from counter attractions to the large syllabuses arranged by the hundreds of local photographic societies throughout the country, and from early appearances it would seem that the forthcoming winter will prove to be one of the busiest on record.

The Studio of Millais.

The portrait studies of Mr. E. O. Hoppé are equally as famous on the western side of the Atlantic as on this and it will interest amateurs in the New World to know that the noted photographer of so many celebrities has secured the home of Millais, the famous painter, as his future studio. Number Seven Cromwell Place, South Kensington, with its fine old interior in carved cedar, marble chimney pieces, and panelled studio, all executed from Millais' own designs will from now enter a new era. The decorations are early Victorian, but the architecture is Georgian, and between two long windows in the dining room near to the west window, painted almost half a century ago by Millais himself, is a plate bearing the inscription "John Everett Millais, 1829—1897." Mr. Hoppé proposes to use the spacious reception rooms for receiving his sitters, and upon acquiring the historic surroundings he remarked that "people have not yet rightly realized the possibilities of photography. It has been too much commercialized and cheapened. I think," he continued, 'it should be regarded essentially as an art and that as much thought, care and artistic knowledge and skill may be, and should be bestowed upon it as upon the work of the portrait painter in oils."

American Views.

A collection of very fine American landscape photographs was shown to me a few days ago while I was inspecting the work of Miss Helen M. Murdock at the Halcyon Club in London. This artist's studies are principally color plates, and some exceptionally faithful renderings of Cornish, Devon, and Normandy scenery are included in the exhibition. The American views referred to are in the same process and for the most part were in the district about the Grand Canyon of Colorado. Miss Murdock, it would appear, has recently returned from a western tour, and her pictorial efforts have aroused considerable favorable comment from British photographers.

Another Arctic Expedition.

Press photographers set out upon many strange and exacting quests from time to time, but surely, none could be more trying than that which a "Daily Mirror" staff photographer has undertaken. In order to obtain original pictures of animal and vegetable life in Franz Josef Land and also to secure color photographs of the Aurora Borealis, he left Aberdeen a fortnight ago on a whaling vessel. He is not expected back until next year.

Dr. Tempest Anderson.

It is with regret that I have to record the death of Dr. Tempest Anderson, the scientist and seismologist, which occurred a few weeks ago. He lectured several times during his tours through the United States, and during his lifetime gathered a fine collection of photographs of volcanic and earthquake phenomena.

Troublesome Films.

It is often extremely annoying not only to the amateur with his kodak spools, but to the professional photographer who undertakes the development of amateurs' work, to note the curling tendency in films. Cold weather, too, seems to contract the hardened gelatine base into a particularly rebellious antipathy against development or anything else, but at a small photographic society in West Yorkshire, a lecturer, the other evening, expounded a simple remedy. This consists of nothing more

than bathing the films before development—or after if preferred—in the following solution:

Ordinary glycerine 1drachm
Water .....2 ozs.

After treatment the films should be allowed to dry in a cool place. It should be needless to add that if the films are treated before development the procedure must be carried out in the dark room.

A Nature Photographer's Experience.

Mr. T. Taylor the nature photographer, has been relating his experiences in a tern colony, and very interesting they are. Mr. Taylor first selected his sitter, then made overtures to get his apparatus rigged up near the nest. Thrice this failed, the bird flying away on each occasion. So the photographer had to seek out another and more suitable sitter and after some wandering about among the marshes he erected his camera quite close to the nest of a mother and her young. At first she resented the intrusion but after about ten minutes settled down to her maternal duties. Mr. Taylor then managed to focus accurately and a few minutes later had secured four plates of her sitting. One incident he could not forget was the graceful appearance of the bird when she alighted, and he felt he must possess an exposure of it. Arousing the bird without showing himself, he slipped in another slide and waited for her return. With the lens at its full aperture, F. 8, and an exposure of 1-780th of a second, Mr. Taylor managed to obtain a most satisfactory record.

Effect of the New U. S. A. Tariff.

As I continue this communication most of the newspapers are devoting columns to the new tariff duties which have just been sanctioned by President Wilson. Hitherto, photographic films imported into the U. S. A. have been subject to a tax of a cent and a half per foot, but now, providing they are neither exposed nor developed, this duty is removed entirely. But here arises a nice problem for someone. How are the customs authorities to determine which films are exposed and which are unexposed? Apart from this, however, the new tariff with its reduced tax also upon photographic apparatus, appears destined to give a weighty impetus to photographic exports from Europe and Great Britain in particular. It is common knowledge that the cost of labor and production in the photographic field in this country is less than in America, while in France it is still lower. It may naturally be taken then, in view of the removed taxation, that some of the larger European manufacturers with branches in New York or Chicago will avail themselves of the opportunity to the full by promptly increasing their export trade in competition to manufacturers in the United States. Etchings, engravings, and woodcuts are also on the "free list," but photographic reproductions of them are subject to the old rates. In substantiation of the above I might quote an item from the last report of the British Vice-Consul at Guadalajara, Mexico, who states that photographic dealers there find that British photographic and optical goods are considerably cheaper than the makes of other countries, but the free advertising compels them to keep American materials which are better known to the public than European.

A Profitable Christmas Line.

It is rather early at the beginning of October to prepare for the Christmas rush which, I should think, every professional photographer without a single exception experiences. Yet, by the time these lines appear in cold type the majority of city studio proprietors will be deciding upon some new seasonable line to "boom" before the public. Tinted portraiture is a branch generally left seriously alone except in the case of expensive miniatures, owing to the trouble involved in coloring. If, however, as a professional colleague in Manchester has demonstrated to me, Christmas card portraits, so much in demand at this time of the year be executed in platinotype, tinting can be made a good and profitable side line. A medium grade of paper is the best and the print must be developed to obtain a bold black image. Previous to coloring the prints should be bathed in formalin or any good hardening solution. This reduces the absorbency of the emulsion. Water colors, dyes or Japanese tints may be employed for the actual coloring but for quick work I think the former most suitable, then, again, water colors are less liable to run. The larger expanses of the subject are first treated, working up smaller details of the features of the sitter along with articles of apparel last. I venture to suggest that those who have not tried tinted platinotypes will find it much easier than either silver prints or bromide. Christmas cards, such as I have described, fetch from to three to four guineas (approximately $15 to $20) per dozen in this country, according to the quality of the tinting. The individual who furnished this wrinkle turns out, on an average, forty dozen per day during the three weeks preceding Christmas.

The Combined Bath.

The advisability or otherwise of employing a combined gold toning and fixing bath for ordinary P. O. P. prints is continually being discussed in the trade press by workers with an eye to labor saving. The combined bath has been repeatedly condemned where perfectly uniform tones are required owing to its rapid exhaustion. The amateur with his limited stock of prints may find same satisfaction in frequently changing the bath. In a pamphlet issued by the Ilford Plate Co., Mr. C. H. Hewett, F.R.P.S., gives a formula which he claims will retain its vigor as long as a separate gold bath. Furthermore, prints so treated do not fade. The quantities for this toning and fixing bath are:

Sodium hpyosulphite	8 ozs.
Ammonia sulphocyanide	1 oz.
Lead nitrate	175 grs.
Alum	350 grs.
Water to make up	20 ozs.

When this has been made up in the above order the solution must be heated to 120 degrees Fahr. for ten minutes, then labelled "A" solution.

The next solution is:

Gold chloride	15 grs.
Water	7½ ozs.

This is known as solution "B." For half a dozen half plate prints take 1½ ozs. of "A" and to it add an equal quantity of water. At the last moment add 120 minims of "B."

The Art of the Skyscraper

Mr. Alvin Langdon Coburn, who last year made an extensive tour of the Western States, declared some time ago that no country was so rich in photographic possibilities as California. To justify his assertion he has opened this week at the Goupil Gallery, in Regent Street, an exhibition displaying the fruits of his tour. Several post-impressionistic studies of the Grand Canyon in Colorado are arousing favorable criticism in art circles. Three in particular, "The Temple of Ohm," "Temples Before Sunset," and "The Great Temple," are arresting compositions of rock and sky. The artist does not stop with purely natural subjects. He appears to have spent a considerable amount of his time in and about Wall Street on his return to New York. A freakish study of the front of one building is termed "The Thousand Windows." Another print of the Woolworth Building vignetted in a shroud of white steam is described by one critic as resembling a vision by Poe.

Science and Invention.

The specification of a novel enlarging and copying apparatus has just been issued in accordance with the rules of the British Patent Office. Signor Enrico Borlandi, of Pavia, Italy, is the patentee, and his invention embodies an enlarger in which an opaque object or white surface to illuminate the negative is itself illuminated by reflected light from lamps in the lantern. It is claimed that the reflected light makes the illumination much more uniform. Other improvements are the mounting of the lens in a reversible cone, a method of perfectly ventilating the lantern without the admission of outside light, and a holder in which books can be held to display a single page or illustration for reproduction.

Mr. Frank Glenn Wilcox, of 2408 East 11th Street and Mr. Wm. Cary Renfrow, 3018 Troost Avenue, both of Kansas City, Missouri, have had their joint specification accepted for a double coated printing paper, which is sensitized on both sides and rendered impervious to ordinary light by being stained in manufacture with a suitable dye. The dye or coloring is washed out during development and it is possible to make different prints upon each side of the paper.

Mr. J. N. Johnson, of Albuquerque, Bernalillo, New Mexico, U. S. A., has also been accorded protection for a combination of a camera and a pneumatic operating device. By means of the mechanism a rapid succession of photographs can be taken, the use of one hand only being required for levelling the camera, aiming at the object, exposing the film, and displacing the negative for the reception of another.

Mr. Fredk. Raymond Miller, of Chestnut Street, Brooklyn, and of the Millergraph Co., New York, has patented here a number of improvements and inventions in the production of negatives for photo-mechanical printing.

Mr. A. E. Lipp, of Chestnut Street, Philadelphia, has had a specification accepted for an improved contact printing machine.

Mr. F. W. Baxter, of Peckham, London, has an invention for a mechanical shutter timeing device. It consists of a compressed air cylinder of the familiar type fitted with an arrangement for an escape of air at various rates of pressure, thus regulating the shutter.

The "Agfa" Company of Berlin, are seeking to patent an improved film pack device for hand or stand cameras. In general principle the film pack is similar to those at present in use, except that the invention provides metal separating slips between each film. It is claimed that these are more light-tight and protective than slips made of thin cardboard.

J. B. Sutcliffe.

Minute X-ray Pictures

M. Pierre Goby appears to be the first to obtain photographs of very minute specimens by the use of X-rays, such as diatoms and the like which have about the size of a grain of sand. This he does by placing the specimens directly upon a photographic plate and allowing a perfectly vertical beam of the rays to fall from a bulb above, through a special tube so as to properly direct the rays on to the object. In this way he secures a very minute photograph of the interior structure of the specimens, and this can be enlarged many times so as to obtain a large view in which the structure is clearly visible.

To photograph coins and medals, the best method is to make plaster casts of the objects, tinting the casts lighter or darker according to the metal of which the medal is made, silver, copper, etc. By this means all troublesome reflections from bright surfaces are avoided, and both the obverse and reverse of the medal can be secured on the same negative.

EDITOR'S TABLE

Retaining Your Customer

FEW things are more persistently dinned into the ear of the photographer than is the necessity for advertising. To make known both name and work, energetically and persistently, is accounted a good and a necessary thing. And so, doubtless, it is. But to attract a new customer might almost be described as a means to an end rather than an end in itself, the real end being the *retaining* the customer. The photographer who fully understands the business end of his profession knows that the names on his books, the names of people who have sat for him, form one of his most valuable assets.

There seems to be still too much survival of the old idea of value inherent in a negative. The negative is not without value—some negatives are exceedingly valuable, as are some collections of negatives; but speaking of the whole question, too much value is placed on the stock of negatives, and too little value on the legitimate possibilities of a clientele. Like much of our retouching, the hoarding of negatives dates from a time now old-fashioned. *Then* the sitting for a photograph was an event—often of a lifetime: and once a record was obtained the photographer scarcely expected to again see his sitter in a business way. *Now* he takes his sitter, and there is no reason why the sitting, especially if of a lady or of a child, should not be repeated at the end of two years, or even earlier. In the old-time days of one negative per life-time that negative had a reasonable probability of being again required when the person portrayed was dead. Today this value is much more problematical.

Negatives are still worth storing, but the original is better worth cultivating rather than waiting for an order from children or heirs.

And in line with this question of repeating sittings at intervals comes that of the immediate value of the negative. Very many photographers welcome a sitter to the studio, takes an order, and that is the end of the matter. By a judicious treatment of the sitter the initial order can often be increased, and, although it is not the rule, yet many negatives may be used, in a comparatively short time after they have been made, as a means of again approaching the customer.

The question, therefore, is moved from *getting* the customer to *pleasing* the customer.

First and foremost, in spite of what pessimists and cynics say, *good work must be considered.* Even among photographers jealousies are not unknown, and the successful man is often criticised in the quality of his work. And the criticism—or perhaps we

ought to say condemnation—is usually wrong. The work may be "different," but in its own line it is probably good, however orthodox or however visionary our ideas.

Next to good work, *a good business system is necessary.* Every name of a customer should be carefully indexed; and the index should be systematically gone through. By letter or by other means these people should be kept in touch with the studio. The plan of glorifying what used to be a mere "reception-room" into one of the fashionable lounges of the town is one of the many methods of holding the interest. And such a method has the distinct advantage that it keeps the customers in actual personal touch with the studio, which is better than any mere postal connection. Only a limited few can follow this to its full extent, but all can do their best to make the reception-room attractive.

We think the success of the fashionable lounge idea hinges not a little on the point of being "asked to buy." When a person comes on business bent he or she should have prompt attention. But for the rest they should, as much as possible, be allowed to come and go. If a lady has the habit of meeting a friend at the studio she may call twenty times in a year, and can scarcely be expected to sit for her portrait every time—or every tenth time.

Some of our prominent photographers go so far as an occasional musicale and reception, which if managed with taste and discretion stimulates interest and promotes business. This can be followed even in smaller communities.

Perhaps the man who more than any other needs to keep close track of his customers is the man who is in a very small way of business. The man who has larger capital invested and who can employ a staff of assistants often has his business system thoroughly arranged and understood. The smaller man too often makes a spasmodic effort when business is not moving satisfactorily, and at other times lets things take their course. His method is very often too general. It is all right to flood the town with handbills, offering coupons or special advantages; but there should be an additional special effort to those who personally know the studio. Five thousand circulars scattered broadcast will hit perhaps five hundred people, and twenty of these will drift into the studio as a direct result; others may come afterward, unconsciously influenced by the bills. But five hundred rather more careful bills or letters to a selected list, and in some way intimating that their former visit is remembered and appreciated, will draw a much larger proportion of interest and probably an actually larger result. The neglect for properly working this list of preferred names must in the aggregate lose thousands of dollars to the fraternity.

We know many cities where there are many good photographers. We know one city that ere long may write its population with six figures, where there is only one really well-known firm; and a good man tried for a long time to get a part of their trade, and finally retired discomfited. His work was not better than theirs, but it was good, sound work; but they had a hold on their customers. He got the fringe only of their trade, and that by quoting a lower rate. But beyond that he was powerless. For years, as the town has grown, the old-established firm have kept alive and up to date. They have always, first, endeavored to hold their trade, and, second, to win new trade. By giving due attention to the first the second becomes easy; by devoting all the energies to the second the first is let slip. By all means attract all the new trade possible; but once a customer is obtained, make that customer a friend. *And above all, if you want to keep your customer, keep your promises.*

An Unprecedented Offer.

With a vigorous forward policy, the Editorial and business departments of Wilson's has entered upon a new era of broader activity—an indication of this new spirit is the following offer, unprecedented in the history of Wilson's:

For fifty years Wilson's has been the best helper for the worker in photography, and this magazine will surpass its own record in 1914. In no other magazine can you find so much useful and original information by writers distinguished in their line, so much bright reading, and so many helpful examples of practical work.

Next month we celebrate with a large double number which will be a notable record of photographic progress. Send us *one dollar for six months,* and get this large Jubilee number. This *special offer* is good only until the first of the year.

NOTES AND NEWS

CHRISTMAS will soon be here and you should be better fitted to handle *your* business than you were last year. If you are not, you will not be able to profit by the increased business. You will simply be following photography.

The greatest difficulty in a rush season is in turning out a sufficient number of good prints. A good printing machine is just what you need. And there are two new printing machines on the market that have exceptional advantages.

The 8 x 10 F. & S. Professional Printer No. 1 has many advantages that are essential to quick, accurate printing. It carries nine powerful Mazda or Tungsten lamps, occupies the minimum of space, and is inexpensive. The price is $25.00.

The New Artura Printer is fitted with a powerful arc lamp which gives a very steady light. The construction embodies many improvements which materially add to its convenience. The price of the 11 x 14 printer with arc lamp is $75.00—the 20 x 24 is $100.00.

Have your dealer show you these printers and install one in your printing room now.

THE Wanamaker Ninth Annual Exhibition of Photographs, March 2 to 31, 1914. The purpose of this annual photographic exhibition is to stimulate the love for the beautiful inherent in every one. To the thousands of camera users who often make pictures aimlessly, is wished to give this thought: Why not study some of the rules of composition and observe the harmonies of light and shade, think a little, and make pictures that are worth while?

In each of the past exhibitions there have been about two thousand pictures. Each year the judges have noted an increasing number of pictures that indicated sincere thought and a desire to achieve something of real value.

Photography as a means of expression possesses many peculiar advantages, and should be used for original work rather than to imitate paintings. An original thought properly expressed, or something in every-day life shown from a fresh point of view, is what the thinking public desires.

In composing a picture it is well to remember that "Art is not so much a reproduction of the real as an appeal to the emotions, or as an arrangement of symbols, like tones in music—enough of each to harmonize or blend and give pleasure."

An open exhibition, where hundreds may have their work passed upon by competent critics, should be a help to all.

There is time between now and February 14th next, for every one to do some original work.

SULPHIDE TONING OF SILVER PRINTS.

ACCORDING to the newest process of A. Seyewetz, of the A. and L. Lumiere's laboratories, a part of the prolonged washing necessary to develop the full tone of silver images in the process of toning by means of collodial sulphur, may be avoided by omitting the washing after fixation, transferring the fixed prints directly to the sulphiding bath, and finally washing for something like one and a half hours.

They also suggest what is a new method of toning. In this process the addition of a colloid is done away with, and the substance of the film is made to serve for this purpose while awaiting the formation of colloidal sulphur.

Then the fixed print is transferred without any washing whatsoever to such a dilute one per cent. solution of hydrochloric acid for thirty to forty minutes at fifteen to seventeen degrees centigrade. After this it is finally washed in water for the same period of one and one-half hours.—*Dr. Leonard Keene Hirshberg.*

INTENSITY OF ULTRA-VIOLET RAYS MEASURABLE.

IF the correct conditions are arranged, by the amount of decomposition effected in oxalic acid in the presence of uranium acetate, the intensity of ultra-violet rays can be accurately measured in sunlight. At different latitudes, temperature differences do not influence the measurement in any degree.

Drs. Paul C. Freer and Harry D. Gibbs report that annual average of oxalic acid changed in one hour in Honolulu, Manila, Washington, Tucson, Munich, at respectively 13.9 per cent., 12.45 per cent., 11.9 per cent., 13 per cent. and 8 per cent. In the Malay Archipeligo it was 15.29 per cent. There is no difference whether the sky is cloudy or clear.

They also discovered that the ultra-violet rays transform the blood's oxyhemoglobin into a deficient sort of hemoglobin that is not at all healthful.

The discovery by Messrs. Gabriel Bertrand and Medigriceanu, who after examination of the tissues of at least one animal of fifteen

different species, found manganese to be present in the living body, has stirred up all the learned doctors of hither and yon.

Dogs, cows, snakes, sheep, horses, wolves, dolphins, birds, and men all are now known to have the rare metal manganese in the blood. It is as necessary to life, according to these investigators as iron or oxygen. Man could not long exist without it, yet this is the first time it has been found. Indeed, Messrs. Bertrand and Medigriceanu are convinced that manganese has something to do with those strange bodies called enzymes or ferments, that change great quantities of complex compounds, without being in any way altered themselves.—*Dr. Leonard Keene Hirshberg.*

Ingento Art Calendars.

Encouraged by the success of their calendar mounts, Burke & James, Inc. have added this season a most attractive line of art calendars.

There are three ways in which these mounts can be put to profitable use by the dealer. First, there is always a large demand for art calendars for gift purposes and a nice profit will accrue to the dealer featuring this line; secondly, they are admirably adapted for the use of the dealer as his own gift calendar, and for this purpose they will be supplied imprinted in one color, when 100 or more of a size are purchased. Lastly, the dealer can no doubt sell, at a nice profit, several thousand to better class merchants in his locality who are on the lookout for something better than the ordinary lithographed calendar. By ordering a sample set you will be in position to make the most of this last suggestion, remembering that when 100 or more of the same size are ordered we include the advertising imprint without extra charge. Write for circular.

In order to promote his business along general lines, says a writer in *System*, a commercial photographer added a tinting department to his gallery and sought opportunities to photograph chinaware, furniture, fabrics, toilet articles, and so on, coloring the prints to faithfully portray the article itself. In many instances, these tinted photographs were used in place of the articles themselves or half tone cuts in colors.

By the use of proper tinting colors and their careful combination to obtain the right shades, this phtographer has turned out some excellent photographs which have been used to good advantage in selling and advertising.

A PROMINENT Fifth Avenue Photographer is using the following suggestive advertisements:

NEW IDEAS FOR CHRISTMAS. Let us photograph the picturesque bits of your home to be made into cards of greeting. Write——

CHRISTMAS GREETINGS OF CHARM Let us send you our suggestions which combine photography, good cheer and individuality. Write——

An Impression From the Convention of the Carolinas and Virginia Photographers' Association.

The recent convention of the Carolinas and Virginia Photographers' Association was one of the most successful in the history of the association. The most striking feature, to my mind, was Mr. Otto Doehn's lecture on "Color Separation." We all remember with weariness the muddy, flat prints we have made when we have attempted to photograph some subject that had blues, greens, yellows, or reds in it, and how disheartened we have felt after our most patient effort. Mr. Doehn, in his lecture, made it so clear that even the most muddled mind could understand why the filter was necessary, and realize the value of the orthochromatic and panchromatic plates. In filtering our muddy solutions, the filter holds back the precipitate, and allows the clear solution to pass on through, thus causing a separation. In like manner our color filter allows certain colors to be held back, while others pass through the filter, and this is termed color separation. So by the aid of the filters we are able to separate the various colors to suit our liking, and give us a correction or over-correction of the object as is most desired. The color filters, therefore, place in the hands of the photographer an invaluable instrument, giving us the power to do the seemingly impossible things. All of this we have read about, and many of us have thought we understood, but it has been left to Mr. Doehn to make it so plain that no one could fail to grasp it. His examples with the lantern were most striking and direct. He tacked up in the lantern light a dark blue Richmond pennant with red letters on it. When he placed a blue filter over the lens, it appeared all one color, and he aptly said "Richmond by night." He changed the filter to a yellow one and the letters came out clearly and distinctly, again he changed the filter, this time using a red one, and the letters were startling in their contrast for now it was over-corrected. And the joy of it is that one is not referred to a complicated chart or scale to know what filter to use; all one has to do is to just look through the filter and he sees just what tone value he will get in his photograph. The subject matter of this lecture is by no means new, but Mr. Doehn's method of presenting it and his illustration are most original. The Carolinas and Virginia Associationl is to be congratulated on being the first to hear it.

Bayard Wootten.

Coming Convention of National Photo Dealers.

The farsightedness of co-operative effort has been demonstrated so often in other lines that everyone allied with the photographic industry will welcome the report that arrange-

ments for the Convention of the Photographic Dealers' Association of America to be held March 24-27, 1914, at the Hotel La Salle, Chicago, are progressing rapidly.

Already numerous firms have signified their intention to exhibit, and judging from their standing in the trade, it is a foregone conclusion that this coming convention will go down in the annals of the association as one that accomplished much for the interest of the trade in general.

President Charles H. Huesgen of the association, in a recent interview stated that manufacturers and dealers alike cannot help but profit by the stimulus to the business which this coming convention will provide.

Dealers should send in their applications for membership at once. This important matter should receive your immediate attention. Write to any of the following officers for a copy of the new constitution and by-laws and application blanks adopted at the first convention held in Rochester last March.

President, Charles H. Huesgen, 456 Fourth Ave., New York City, N. Y.; First Vice-President, E. H. Goodhart, 22 Central Ave., Atlanta, Ga.; Second Vice-President, H. N. Fowler, 806 Huron Road, Cleveland, O.; Third Vice-President, W. P. Hallam, Jr., 17 4th Ave., W. Duluth, Minn.; Fourth Vice-President, E. M. Heidkamp, 56 W. Randolph St., Chicago, Ill.; Secretary, William Hartman, 623 E. 37th St., Brooklyn, New York; Treasurer, George L. Kohne, 602 Summit St., Toledo, Ohio.

THERE's unlimited satisfaction to be able to photograph anything at any time. Little cameras which you can stow away in an unused pocket—always with you and never in the way—so often come into play that you would not be without one, especially if it is of the "ICA" type. Simply send your request on a post card for an instructive catalogue to the International Photo Sales Corporation, 235 Fifth Avenue, New York City.

THE third annual convention of the Associated Photographers of West Virginia, after a three-day session, elected the following officers: President, Friend Cochran, Charleston; vice-president, William Blatz, Parkersburg; secretary, Mrs. J. L. McAvoy, Buckhannon; treasurer, B. D. Davies, Parkersburg; advisory board, A. T. Proctor, Huntington; J. E. Giffin, Wheeling; L. E. Friend, Morgantown; representatives to national convention, J. E. Giffin, Wheeling, and William Blatz, Parkersburg.

HIGGINS' Photo Mounter Paste possesses a peculiar quality which makes it of the greatest value to photographers who wish to have a perfect paste convenient for instant use. Don't forget to get a jar of it the next time you place an order for supplies; be sure to distinctly specify Higgins'.

WE regret to announce the death of Evan Tyson Ellis, one of the founders and charter members of the Photographic Society of Philadelphia, at his home in Philadelphia, on October 11th. Mr. Ellis, although 87 years of age, was active in photography until about two years ago. William Shewell Ellis, the well-known Philadelphia artist-photographer, is one of his sons.

THE long evenings are now here. You can make your camera still more useful by doing flashlight work. "Agfa" Flashpowder has the highest reputation for its wonderful light-giving qualities, with little smoke developed, also requires less powder than other makes for same amount of light. Convince yourself with a trial. All photo dealers or direct from Berlin Aniline Works, 213 Water Street, New York, N. Y.

R. MORRIS WILLIAMS of Evansville, was awarded the diamond medal for the portrait entitled "Mike" at the convention of the Photographers Association of Indiana, Kentucky and Illinois, held at Henderson, Ky., Oct. 8 and 9. The entire association acted as judges, and gave the picture rating of 86 points as against 69 on the nearest competitor, also from Evansville. Three entries were sent from Evansville, those of Messrs. Williams, Walden and Wallace.

W. J. Rech of Evansville, received the award for making the best flashlight negative at the demonstration. Neal Walden of Evansville, also received honors in this work. A. G. Roberts of Henderson was elected president. The convention next year will be held at Olney, Ill.

THE necessary advantages which the Reflex camera offers are very well known to the professional photographer. The chief characteristic of the Reflex camera over cameras of other types is in the possibility of focusing on the focusing screen up to the moment of exposure. In this respect the Reflex camera in spite of its necessary large proportions is the most important model for naturalists, journalists, and sportsmen.

THE well-known house of Heinr. Ernemann, A. G. Dresden, Germany, the makers of these and many other standard cameras, have opened a branch office for the United States and Canada at 114 Fifth Avenue, New York, under the management of Mr. H. J. Hoffman, and his associate, Mr. H. E. Bader.

The Ernemann goods have been imported into this country in increasing numbers of late and have everywhere created a brisk demand for more, hence the opening of this branch will doubtless place dealers in a position to supply their customers more readily. Motion picture work is another field in which the apparatus of the Ernemann factory has won a high place. Readers who are interested in this department of photography should write for the cinematograph catalogue.

THE NEW TARIFF BILL ON PHOTOGRAPHIC MATERIALS, SIGNED BY PRESIDENT WILSON OCT. 3, 1913.

PHOTOGRAPHIC cameras, and parts thereof, not specially provided for in this section, photographic dry plates, not specially provided for in this section, fifteen per centum ad valorem; photographic-film negatives, imported in any form, for use in any way in connection with moving picture exhibits, or for making or reproducing pictures for such exhibits exposed but not developed, two cents per linear or running foot; if exposed and developed, three cents per linear or running foot; photographic-film postives, imported in any form, for use in any way in connection with moving picture exhibits, including herein all moving, motion, motophotography or cinematography film pictures, prints, positives or duplicates of every kind and nature and of whatever substance made, one cent per linear or running foot; provided, however, that all photographic-films imported under this section shall be subject to such censorship as may be imposed by the Secretary of the Treasury.

FREE LIST.

Photographic and moving picture films, sensitized but not exposed or developed.

CURRENT TOPICS IN LEADING PERIODICALS.

Acid Amidol for Bromides. Sept. 29th *Amateur Photographer.*

Artificial Light With Daylight Enlargers. Oct. 14th *Photography & Focus.*

Abrasion Marks: Their Cause and Cure. Oct. 10th *Brit. Journal.*

Business-Getting for Commercial Photographers. Nov. *Amer. Photography.*

Copying. Sept. 19th *Brit. Journal.*

Color Photography, All About. July *Photo-Miniature.*

Covering Power of Lenses. Oct. *Camera.*

Child Portraiture by Flashlight. Sept. *Camera Craft.*

Concerning the Focal-Length of a Condenser. Oct. 6th *Amateur Photographer.*

Combined Use of Tones and Stains. Oct. 6th *Amateur Photographer.*

Enlarging Without a Camera, A. J. Jarman. Sept. 24th *Bulletin of Photography.*

Enlarging Without an Enlarger. Oct. 14th *Photography & Focus.*

Enlarged Negatives by Reversal. Nov. *American Photography.*

Fixing Prints With Common Salt. Sept. 24th *Bulletin of Photography.*

Finishing Portraits in Water Colors. Sept. 19th *Brit. Journal.*

Flashlight Work in Ordinary Rooms. Oct. 3d *Brit. Journal.*

Hints on Home Portrait Work and Retouching. Aug. *Photo-Review.*

"Hot" Development of Velox. Nov. *Photo. Times.*

Improving Weak Negatives, A. J. Jarman. Oct. *Camera.*

Individuality in Portrait Photography, E. O. Hoppé. Oct. *Photo-Era.*

Lead—Its Salts in Photography and Its Electrical Properties, A. J. Jarman. Sept. 24th *Bulletin of Photography* .

Lenses for Soft Effects. Sept. 23d *Photography & Focus.*

Making Blue-Print Paper—Ordinary and Rapid. Oct. *Camera.*

Monograph on Carbon Printing, A. Oct. *Photo Times.*

Metol Hydroquinone and Its Adaptibility. Oct. 13th *Amateur Photographer.*

Moisture-Proof Flashlight Apparatus. Nov. *Amer. Photography.*

Printing by Gaslight in Comfort. Sept. 23d *Photography & Focus.*

Photo-Electric Engraving, A. J. Jarman. Oct. 8th *Bulletin of Photography.*

Pointers for Professionals. Sept. *Camera Craft.*

Passe-Partout Framing. Oct. 10th *Brit. Journal.*

Paper Negatives—Their Production and Use. Oct. 22d *Bulletin of Photography.*

Portraits by Arc Light. Nov. *American Photography.*

Preparing Prints for Coloring. Oct. 17th *Brit. Journal.*

Platino-Argento Paper. Nov. *Photo. Times.*

Reflecting Enlarger, A. Nov. *American Photography.*

Spectro-Photo Metric Work by Acid of Photography. Sept. 19th *Brit. Journal.*

System of Measuring Shutter Speeds. Sept. 26th *Brit. Journal.*

Simple Direct Method of Finding Exposures for Enlargements. Oct. 14th *Photography & Focus.*

Tank Development of Lantern Slides. Sept. 29th *Amateur Photography.*

Taking Photographs by Artificial Light. Oct. *Amer. Photography.*

Textile Designing by Photography. Oct. 13th *Amateur Photographer.*

Testing the Focusing Scales of Hand Cameras. Oct. 17 *Brit. Journal.*

Use of the Pyro-Ammonia Developer, The. Sept. 19th *Brit. Journal.*

Variable Focus Lenses. Oct. *Camera.*

Reflex Cameras in Professional Work. Aug. 29th *British Journal.*

Snapshot Portraiture. W. L. F. Wastell. Sept. 9th *Photography & Focus.*

Stops and the Speed Lenses. Aug. 29th *British Journal.*

Toning P. O. P. With Gold and Platinum. A. J. Jarman. Sept. 17th *Bulletin of Photography.*

Toning Plates and Paper. Sept. *Camera.*

Taking Photographs by Artificial Lights. J. S. Dow. Oct. *American Photography.*

PATENTS AND INVENTIONS

Double Coated Films

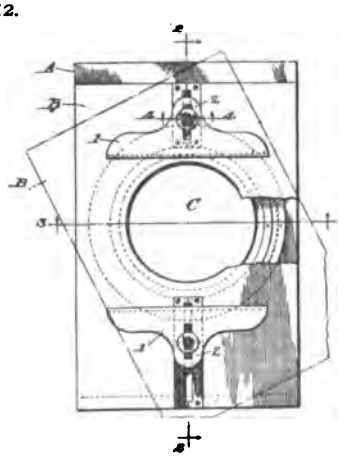
A German patent, No. 262036, of June 16, 1912, has just been published and it is for coating plates or films with successive layers of emulsion of different sensitiveness.—*Phot. Ind.*, 1913, p. 1184.

Exactly how this differs from Sandell's English patent, No. 21381 of 1891, is not clear. The Sandell films and plates were on the market for years.

Photographing Apparatus—J. Brieloff, 168 Delancey St., New York, N. Y.

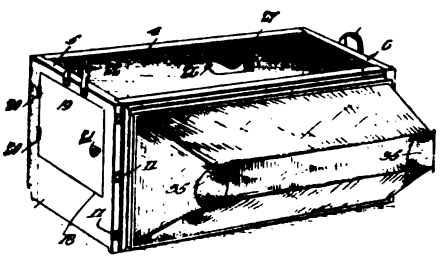
This apparatus is designed particularly for taking pictures upon postal cards and similar articles and is furnished with a magazine wherein a number of cards may be placed. Mechanism is provided for moving the cards suitably sensitized, into and out of position with respect to the lens.

Photographic retouching-frame. Hampartzum Sumbulian, Boston, Mass. Filed April 24, 1912.



A photographic retouching frame, comprising a base-plate having an opening through it, a negative-holder having an opening through it registering with the opening in the base-plate, rings L-shaped in cross section detachably connected to the inner sides of said holder and base-plate and interlocking with each other whereby the holder may be rotated or turned relatively to the base-plate, adjustable jaws carried by the holder on opposite sides of its opening for supporting the negative, and devices for holding the jaws securely in their adjusted positions.

Folding dark room. Junji Masko, Indianapolis, Ind. Filed Aug. 31. 1912.



1. A device of the character specified, comprising a case consisting of a front plate and a rear frame, end plates, a top and a bottom, the front and end plates and the rear frames each having a longitudinal guideway at its upper edge, said guideways registering to receive the edges of the top, said front and side plates and rear frame each having a ledge spaced apart from its bottom edge, said ledges registering for receiving the bottom, the rear frame having an imperforate partition extending to the level of the floor and carrying the ledge, means for detachably connecting the side edges of the ends to the front plate and rear frame, a light proof hood of flexible material connected to the rear frame and having an open sleeve at each end for receiving the hands of the operator, a curtain for closing the opening of the rear frame, the top having an opening near its center, a shield inclosing the opening, the upper edge of the shield being shaped to fit the face, said top having a frame below the opening provided with guideways, sheets of material impervious to the actinic rays within the guideways, said front having an opening near its center, guideways on the inner face of the front above and below the opening, and a plurality of frames slidable in the said guideways, said frames being adapted to hold sheets of material impervious to the actinic rays.

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. L DECEMBER, 1913 No. 12

MEMORIES OF "WILSON'S" AND ITS FIRST EDITOR

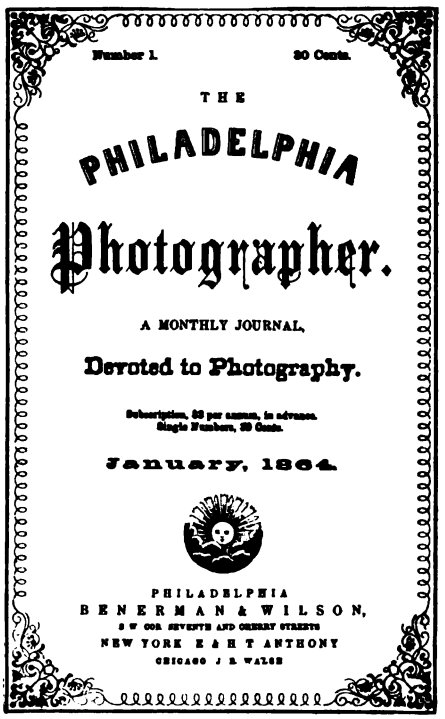
BY JOHN A. TENNANT

MY memories of Edward L. Wilson and his work begin about 1887, when he was giving in the "Century" and "Scribner's" Magazine some account of his travels in Egypt, Arabia-Petra and the Holy Land. At that time I was a youngster, leaving school to begin an apprenticeship in photography in an English town. My boyish fancy was intensely interested in this American who, for the first time in history, carried the camera into the burial chambers of the old Pharaohs, up the Nile, over the Arabian Desert into the never-before-photographed rock city of Petra, on through the Sinai Peninsula and along the time-worn ways made famous by the Gospel story. We corresponded for some time, and from his letters and copies of the Magazine which he sent me, I learned of the notable place he filled in American photography.

Soon after this I came to America, with Wilson as the only American with my acquaintance. Well do I remember the crisp air of the "September Morn," when I walked up Broadway for the first time, seeking the office of Wilson's Magazine, then located at the corner of 14th street and Union Square. Needless to say, Wilson gave me a cordial "Welcome to our City," and we spent an hour or two together, in which time he told me something of his work and of the general trend in American photography. About three weeks later I joined him as associate in the work of the Magazine, which association and our friendship lasted until his death, at Vineland, N. J., in 1903.

In those early days associations of infinitely varied interest clustered about Wilson and his Magazine. He had been

an active worker and leader in professional photography for a quarter of a century. He had behind him a record of strenuous experiences: the fight against the "bromide patent" and other monopolies which threatened the photographer; the management of the photographic


Number 1. 20 Cents.

THE

PHILADELPHIA

Photographer.

A MONTHLY JOURNAL,

Devoted to Photography.

Subscription, $3 per annum, in advance.
Single Number, 20 Cents.

January, 1864.

PHILADELPHIA
BENERMAN & WILSON,
S W COR SEVENTH AND CHERRY STREETS
NEW YORK E & H T ANTHONY
CHICAGO J B WALKER

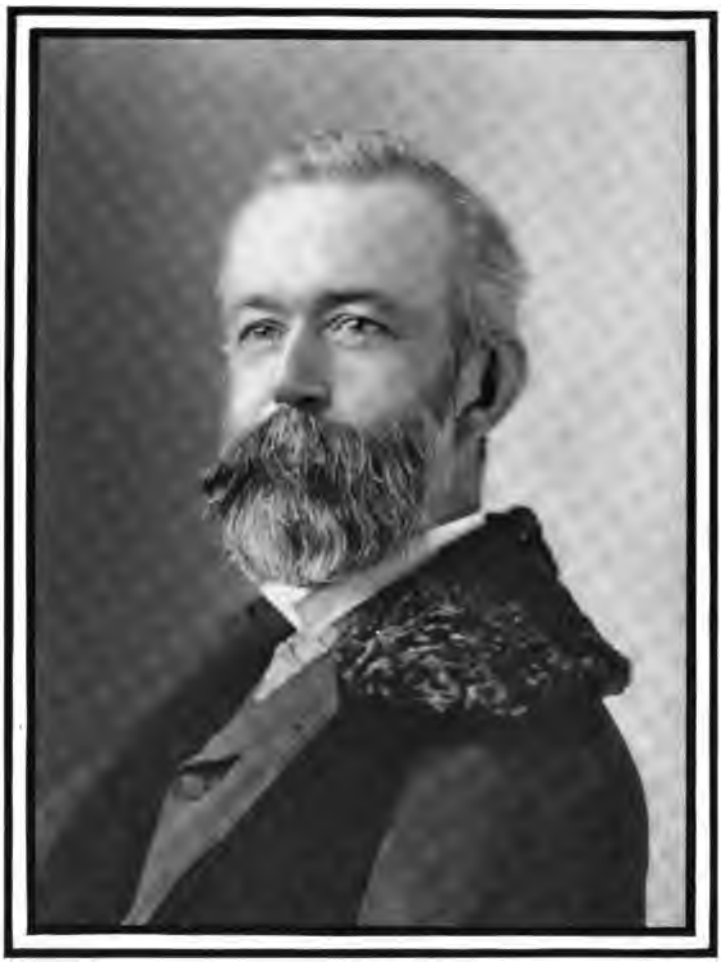
FAC-SIMILE OF COVER OF FIRST NUMBER OF PHILADELPHIA PHOTOGRAPHER

department at the Philadelphia Centennial and the New Orleans Exposition; the organization of the National Photographic Association, which later became the present P. A. of A.; the editing and publishing, simultaneously, of three technical journals (*The Philadelphia Photographer, The Photographic World* and *The Photographic Times*); and he had travelled abroad for long periods in search of materials for a series of travel lectures which made him famous in the illustrated lecture field before Stoddard, Holmes and Elmendorf were known. The fruits of all these activities were gathered into the Magazine for the helping of the American Photographer.

My first years with Wilson were years of steady, hard work. The correspondence connected with the Magazine was enormous. It gave me an intimate acquaintance, in time, with a host of men who had done, or were doing, notable work in photography, such as Taber and Thors, of San Francisco; J. H. Fitzgibbon and H. H. Snelling, Fitz Guerin, Strauss and Rosch, of St. Louis; Jex Bardwell, of Detroit; Benjamin French and W. H. Partridge, of Boston; W. H. Sherman and S. L. Stein, of Milwaukee; F. Eugene Ives and F. Guteknust, of Philadelphia; McMichael and Baker, of Buffalo; Place and Morrison, of Chicago; Gustav Cramer, Abraham Bogardus, W. H. Jackson and others. At that time, Falk had his studio where the Flatiron Building now stands and was famous for his portraits of professional people, Rockwood was in his glory at the gallery which still stands at the corner of 15th Street and Union Square. Sarony was happily flourishing a few doors away; and Pach Bros. had a big place at Broadway and 13th Street, with G. C. Cox just opposite. Alman and Rosseti were then the "Fifth Avenue" photographers, and Hullinger was making portraits at 99 cents per dozen, in Dayton, Ohio.

Now and again, when the day's work was done, Wilson and I would walk in the Park under the office window, and join Sarony in feeding the sparrows at the ornamental fountain at the centre of the Square. At such times Wilson and Sarony would grow reminiscent of bygone days and I learned much of interest about the beginnings of professional portraiture in America.

Among the visitors of the office in those days I recall W. Irving Adams, of the Scoville & Adams Co., and his son Lincoln Adams, then a youngster, like myself, beginning his career in photographic journalism; many veterans in amateur photography, Dr. J. J. Higgins, J. H. Newton, F. C. Beach, O. G. Mason and Vernon Royle; Dr. John Nicol, of the *Beacon;* Richard Watson Gilder, of the *Century;* J. Wells Champney, the painter; Ernest Ed-



EDWARD L. WILSON, PH.D.
FOUNDER AND EDITOR "WILSON'S" 1864—1903
BY SARONY, N. Y.

wards, who introduced photogravure in this country; Louis Prang, of Boston; Stephen H. Horgan, then art editor of the *N. Y. Tribune*; T. W. Smillie, of the National Museum; Joseph Jefferson, the actor, Col. Wilcox of the E. & H. T. Anthony Co., and others whose names do not come to mind.

WILSON'S MAGAZINE, as I first knew it, was a fortnightly, set in small type, double column, with an actual photograph as the frontispiece and many departments covering different branches of work. Among the foreign correspondents who furnished letters on the progress of photography abroad were Dr. Vogel, of Berlin; Dr. J. M. Eder, of Vienna; Fred Boissannas, of Geneva; Ed. Liesegang, of Dusseldorf; Leon Vidal and Ch. Gravier, of Paris; V. Schumann, of Leipsic; H. Snowden Ward, J. Traill Taylor, W. K. Burton and other English workers whose names are household words in photography The putting into decent English of the Continental letters, remains to this day

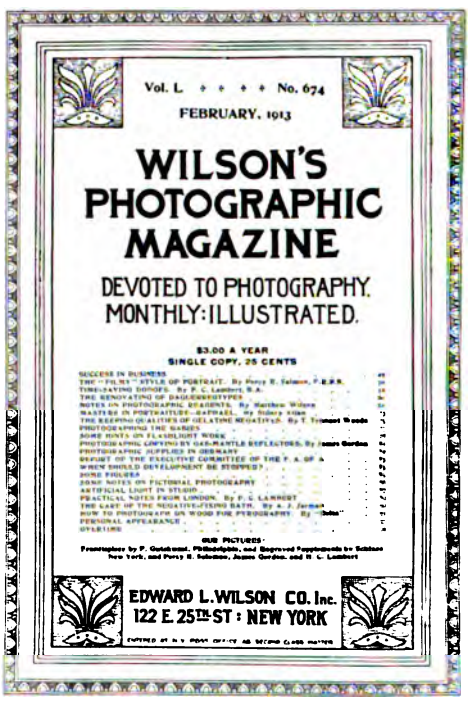
a vivid memory. They were first translated literally by painstaking French and German translators, and then turned over to me for the finishing touches; the work of making them readable was often more difficult than the preparation of an original article!

"THE LOAN OF A BITE"

SUBJECT OF FRONTISPIECE TO FIRST NUMBER FROM ENGRAVING

The heaviest part of the work of the Magazine was the helping and encouragement of those who wrote in from the smaller towns for information and helpful criticism. The present widespread system of demonstration schools, conventions and exhibitions had not been introduced at that time, and the man in the small town had to make his way alone and largely unaided. To these men Wilson was a veritable Moses leading the way to the Promised Land, and at least half of his average working day was spent in this teaching and helping and encouraging of those who came to him for assistance in their difficulties. This unselfish service was characteristic of Wilson. I recall his word when I first began my work with him: "Help all you can. Praise where you can. Let the rest go." All his work in the national association, in the organization of State and local societies, in his importation and publication of studies by European photographers, and in his books, was in line with this policy.

Apart from the steady work of the Magazine, the textbooks which he wrote, edited and published occupied a large share of the days. He was critical, not only of the quality of what he published, but also of the style in which it was presented, and this involved much unseen work. His books were endlessly revised before and after proofs. He had his reward in their popularity. Today we are apt to be proud over the sale of two or three thousand copies of a fifty-



Vol. L + + + + No. 674

FEBRUARY, 1913

WILSON'S PHOTOGRAPHIC MAGAZINE

DEVOTED TO PHOTOGRAPHY. MONTHLY: ILLUSTRATED.

$3.00 A YEAR
SINGLE COPY, 25 CENTS

EDWARD L. WILSON CO. Inc.
122 E. 25TH ST : NEW YORK

cent textbook; but Wilson's *Photographics, Quarter Century in Photography, Lantern Journeys,* and *Cyclopedic Photography* all sold over five and six thousand copies apiece, at three and four dollars a copy. I have seen *Photographics* hung up by a string in more than one professional dark room, stained and dog-eared by constant use and reference.

I recall the enthusiasm which he put into the publication of Burnet's *Essays*

on Art. This was a beautiful reproduction, by photo-lithography, of the pictures and text of the original English edition, which he had collected with much pains during his last trip abroad. The *Essays,* though written for painters and students of art, contain a great deal of helpful teaching on composition, light and shade and the education of the eye. Wilson thought that the book would have a big influence on the progress of American photography. But he was doomed to disappointment. Of the thousand copies sold during its first year, more than four hundred were returned, one by one, with the complaint that the purchasers could find nothing about photography in its pages. This was a truthful statement of the facts, but a sad commentary upon the intelligence of the professionals of that day. I hope that Mr. Frank V. Chambers, of Philadelphia, who is just now republishing the *Essays* at a nominal price, will have better luck.

A word, too, must be said about *Photographic Mosaics,* the little year-book with which Wilson's name will always be identified, and which, I am glad to see, is about to resume publication. The making of *Mosaics* was a pleasure to which Wilson looked forward with almost boyish eagerness. The first third of the book was occupied with a resume of the year's work, in which the editor concentrated all his skill in brilliant condensation. Then followed some fifty or more papers contributed by workers prominent in the profession here and abroad, with a few well-chosen illustrations. It was, in the true sense, a fraternal work and, to my mind, the most satisfactory and readable of photographic year-books. I hope that the new issues will be as interesting and as helpful as were the old.

PICTORIAL PROGRESS

BY SADAKICHI HARTMANN

(Sidney Allan)

THE progress in pictorial expression is a slow but steady one. The work of the amateur is constantly improving, and even the professional work of minor establishments is gaining in artistic finish. At least it seems so to the casual observer.

But this progress is only a negative one. If we compare the work of the early forties of the last century with the productions of the present day, it would be difficult for the unbiased person to pronounce the latter superior to the other. Of course, the workmanship is more perfect, but how about the pictorial qualities?

The clear, precise portrait of Langenheim, Fig. 1 (himself one of the first daguerrotypists) compares favorably with the tonal composition of H. Lerski, Fig. 2. A gulf of nearly sixty years separates them. Yet they are both good in their way, and reflect the art aspirations of their particular time. In the portrait of Langenheim accurate drawing and careful detail are the main factors. It was the period when the great draughtsman, Ingres, was the favorite interpreter of likenesses. The Lerski portrait could have been produced only in the tonal era when Whistler and Carrière reigned supreme. Both are full of character and excellent photographs. Which is the better one? This

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influence public taste and approval are subtle, almost intangible, but they can be discerned and acquired by keeping one's eye open (without prejudice) to all matters pertaining to art. Each art is strictly bound to its medium, the more so a method of expression, that, like photography, is dependent on scientific developments and continually changing according to the latest improvement or invention. The craftsman who understands his time and who, being a thorough technician, remains an experimenter, ready at any moment to take up and solve a new technical problem, will do the most for pictorial progress in photography.

THE PROGRESS OF PROCESS WORK AS RECORDED IN WILSON'S

BY S. H. HORGAN

It is a genuine pleasure to be invited by the editor to write something of Wilson's and its relation to "Process Work." This term which has come into use to include all the applications of photography to the production of pictures in printing ink. And this magazine during its half-century of life has witnessed the rise of wood-engraving until it reached, in this country, its highest perfection, then pictures made in permanent printing ink began slowly to strive for recognition until at last wood engraving was supplanted almost completely by photomechanical engraving processes.

Besides the honor conveyed in the request to review briefly the process of process work there is a gratification which is a sentimental one for it was Wilson's, of 43 years ago, that first opened to the writer's vision the fascinating field of photography and has kept him informed of its progress to this day. It is only we old timers who can appreciate what a welcome monthly visitor Wilson's was when the formulæ used in photography were guarded like so much gold by the possessors.

It might be stated here that the collodion, silver bath and intensifiers of fifty years ago are still in use, with but slight change, by process workers everywhere. In those early days every photographer sensitized his own glass plates immediately before exposing them in the camera. The photographic paper was sensitized fresh and fumed every morning, and the making and keeping in workable condition of the silver sensitizing baths and gold toning baths were feats considered possible only by a modern alchemist.

Among the many reasons why Wilson's appealed to the photomechanical worker are these: It kept before us ideals through a photographic frontispiece, showing the best there was in posing, lighting, backgrounds, accessories and the handling of chemicals. It is doing this in a larger way today through the exhibits of the work of the leading artists in photography the world over. And while mentioning the artistic features of the magazine too much praise cannot be given to its editors for the steadfastness with which it has always stood for the sane in photography. It was never led astray by "secessionists," so called "impressionists," or "futurists." Fuzzygraphs, photographs in a fog, or passing sensational fads never appealed to its editors. It is today more than ever the representative photographic Magazine of America and its field is as broad as photography.

When the history of the early attempts to harness photography to the printing press comes to be written it is to the files of Wilson's, in the libraries of the country, that the historian will have to go for the facts. For process work only began in a practical business way on March 4, 1873, with the publication in New York of the first daily illustrated paper in the world, the *New York Daily Graphic*. Wilson's was then but ten years old though its wide-awake editor had foreseen the immense field that would be opened to any mechanical method by which the picture recorded by the camera could be printed from in permanent printing ink. For it was well known that photographs of that

day would fade, the Platinotype not being invented by Mr. Willis until 1878.

The writer has been continuously connected with photomechanical printing processes since 1874, when he began on the *New York Daily Graphic*. Many pleasant memories come to him of that cheerful optimist Mr. Edward L. Wilson, and the encouragement he gave to experiments that might bring photography to the aid of the printing press of whatever kind. Wood engraving was the method Mr. Wilson was compelled to use in illustrating the magazine, but he took advantage later of the first use of photography in illustrating as will be seen and every new method of producing illustrations that followed.

RE-PRODUCED IN FRANK LESLIE'S 1866.

It was in 1866, that Frank Leslie's announced that they had perfected a method of photographing designs on wood for the engraver instead of drawing them on the wood as had been the previous custom. Mr. Wilson hastened to New York, interviewed Mr. Wright, their photographer, and described the process in the July number of that year, printing also a wood engraving that was produced in seven hours that would have required ten hours without the aid of photography.

In 1868, Mr. Wilson tried lithography by Wilkie for his illustrations but was compelled to return to wood engraving. In 1869 he described a copying camera devised by Mr. O. G. Mason, for so many years secretary of the Photographic Section of the American Institute and at this writing its president. This camera had its bed scaled for automatically obtaining any reduction or enlargement required. An idea which has been re-invented of late. In 1870 he announced the patents of Albert and Obernetter for Lichtdruck which we call Collotype though Artotype, Heliotype and gelatine printing are terms also applied to it.

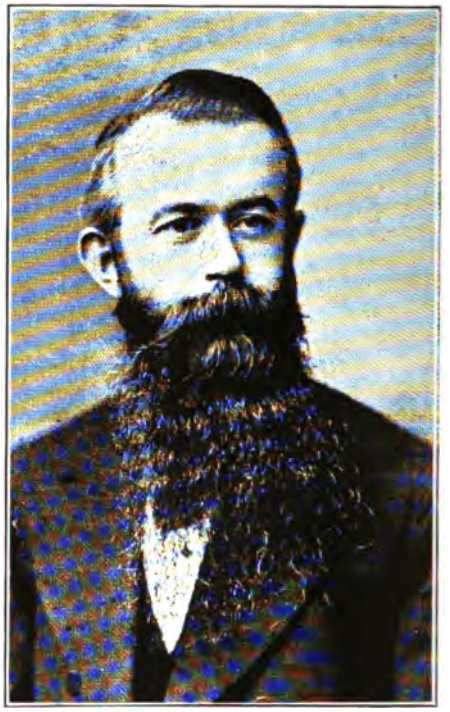
On July 1, 1870, the U. S. Patent Office began the publication of patent drawings by photo-lithography which gave a big boost to process work. It was duly announced in WILSON'S in June with the instructions as to the requirements for the pen drawings to be reproduced by the Patent Office. The frontispiece for July 1872, a Collotype by Obernetter of Munich, is in just as good condition as it will be centuries hence when the photographs in WILSON'S will have faded. In 1873 Heliotypes made by Ernest Edwards are shown and in 1875 photo-lithographs by John Carbutt, the pioneer dry-plate maker.

WILSON'S during 1875 records wonderful discoveries in photography which will have their influence for all time. In January of that year Ernest Lacan describes the work of Ducos du Hauron of France, in obtaining in three negatives the color-records of nature by photographing through three colored glass. One glass is green, another orange-red, and the third violet. From these negatives prints are made by the carbon process in gelatine films of red, yellow and blue tints which are superimposed upon each other and a color print is obtained. This method of color photography is the most successful one in use today.

Dr. Vogel, the Berlin correspondent, announced his discovery that the sensitiveness of the silver salts is increased to the so-called non-actinic rays by the addition of an absorbing substance. On this is based the manufacture of the isochromatic, orthochromatic and panchromatic plates today. Carey Lea, of Philadelphia, ridiculed Vogel's claim to which the latter replied: "Whoever does not want to believe me can leave it alone. I am not at all anxious to teach persons who do not want to be taught and who stubbornly persist in their prejudices."

$5,000 is offered July 22, 1875, by the *New York Daily Graphic* to anyone who will perfect a process for producing photographic prints in colors. This award is still unclaimed. In this year a Gramm machine is mentioned as one of the marvels. With the aid of a 2 h. p. engine it will produce an arc light. A most important exhibit was a relief engraving supplied by P. A. Mottu, of Amsterdam, said to be a view taken from nature and called the "Photogalvanographical Process." Fortunately this name was buried with the process later.

1876 marks the beginning of photo-engraving in earnest. An address by Lafayette W. Seavey is illustrated by reproductions of his own sketches. Mr. Wilson refers to this achievement in



HALF-TONE 1881 BY IVES PROCESS.

an article on photo-engraving in which he says: "No application of photography promises a wider field than photo-engraving. This is a new application of photography which has developed within the last two or three years and is now being extensively used in New York and Chicago, each city having a photo-engraving company. Some of the important details of the process are kept secret so we cannot give details of the methods. The illustrations in Mr. Seavey's excellent paper were made by it. If one of the larger plates shown was made by wood engraving it would have cost more than the whole 14 made by photo-engraving. It promises to do for art what the sewing machine has done for the needle and the rail-road locomotive has done for travel. Success to it."

In 1880 the present writer was making half-tones on the *New York Daily Graphic* entirely by photographic means, but it was not until March 1881 that WILSON'S showed a "Similigravure," by

C. Petit, of Paris, and following it a "half-tone" made by our own Fred S. Ives. Both of these were made partly by photography and the engraving done by a "V" shaped tool used in an engraving machine. In June, of the same year, an engraving of Fox Talbot comes from London made by photo-engraving. In 1885 the Levytype Company's plants in Philadelphia, Chicago and Cincinnati are described. And in 1886 wood engraving as a method of illustrating WILSON'S is abandoned and process engraving takes its place, some of the frontispieces being most excellent photogravures. The contest between wood engraving and process work is now over and the old manual method of engraving is vanquished by the product of the camera. From that year to the present time WILSON'S has contained the best examples obtainable of the photo-engraver's skill. Some of its frontispieces indicate a degree of excellence beyond which it would seem impossible for process work to go.

FIFTY YEARS OF PROGRESS

BY E. J. WALL, F.R.P.S.

THERE are probably very few of us that can look back over fifty years of practical experience of photography, and there are some who take as their motto "let the dead past bury the dead" and content themselves solely with the present. Happy the man who has a complete file of WILSON'S, for he can delve therein in leisure moments and trace step by step the building of the existing superstructure—yet incomplete—on the foundations laid by Daguerre and Fox Talbot in 1839.

In 1863 collodion dry plates, bathed with one of the many curious mixtures, termed sensitizers, were the only practical negative material, for it was not till the following year that Bolton & Sayce discovered collodion emulsion. Taupenot's process was that in chief use, and the present-day user of the fast dry plate or roll film may imagine the delights of coating a glass with iodized collodion, sensitizing in a silver bath, washing and then coating with albumen, drying, and again immersing in a silver bath. The discovery of collodion emulsion reduced these five operations to one, and at the same time enabled the operator to carry the sensitive material in convenient form so that plates could be prepared away from home. Above all things it did away with that bane of the collodion worker, the silver bath, that was always going wrong, causing innumerable troubles, to say nothing of silver stains on hands, clothes and apparatus.

Gelatine emulsion was not discovered till eight years later, in 1871, and for years the plates were slow, none too clean, but slowly forged their way to the front as their manufacture became a commercial possibility—commercial because a brainless, tireless, automatic machine could do more efficiently the work of the individual's hand. Look through the earlier issues of WILSON'S or any other photographic journal and the bulk of the matter will be found to be notes on emulsion making. Every amateur dabbled in emulsion making and the majority wrote of their experiments, so that the mass of information is enormous and from it gradually evolved the pres-

ent dry plate. It may not probably be known, but the secret of the present-day fast plate was discovered by accident through the use of the Hurter & Driffield system of plate testing, announced in 1890, which enabled the emulsion maker for the first time to actually tell by a strict photochemical test the effect of a minor, but important change in the making of an emulsion.

AN EARLY CARICATURE OF A PHOTOGRAPHER'S STUDIO IN THE DAGUERROTYPE DAYS.
BY CRUIKSHANK

In 1873 Vogel discovered, again by accident, the principle of orthachromatizing or rendering a plate sensitive to other colors than the ultra-violet, violet and blue. From this has been built up the method of panchromatizing plates, which has rendered possible photography in natural colors.

Up till 1862 the only developers used were either acid ferrous sulphate or acid pyro for physical development. In that year Russell discovered the alkaline pyro developer and probably during the actual days that the first issue of WILSON'S was being set in galley, he announced the discovery of potassium bromide as a restrainer and the use of an alkaline carbonate as an accelerator, further the advantages of pure bromide over iodobromide of silver as the sensitive salt, thus practically doubling the speed of the sensitive film. The number of developers now is over twenty and he would be rash who stated that the tally is yet complete.

It is utterly impossible in the space at my command to trace the evolution of the light, unbreakable celluloid film. As every one knows, this was patented by Goodwin in 1887, but first placed on the market by Eastman & Walker in 1889. To this, more than anything else must be ascribed most undoubtedly the popularization of photography.

As to the printing process, single or double albumenized papers were almost alone used, and notwithstanding the later introductions some of us yet believe that there is a particular beauty in a good albumen print that has never been surpassed. Collodion papers did not make their appearance commercially till 1868, gelatine print-out-papers not till 1884. Bromide paper was practically born in 1880, and in the following year Eder & Pizzighelli, by a series of classic researches laid the foundation of printing with silver chloride and development; yet it was not till 1883 that "gaslight or development" paper was a commercial article, and then it differed from present day stock in being a washed emulsion. The extreme popularity of this class of papers must be partly ascribed to the natural distaste of the photographer to taking a roundabout way, when he can see a short cut, and the advances made in the manufacture of the emulsions, so that they will now suit any possible class of negative.

Of the iron printing processes cyanotype was known, also kallitype, though this only found attention after Nicol's commercial introduction of it in 1890. Platinotype was not discovered till 1873. The carbon process, though the principles had been known since 1852, was not a commercial possibility till 1864. The latest processes, gum-bichromate, bromoil and oil printing all lay for years forgotten in the old chest in the lumber room of photography. Fashions change and the old willow pattern plates, which we despised as children, are now accorded a place of honor in the china cabinet. So it is with photography—the old forgotten processes are being re-

vived. They are lauded as the magic carpet that shall waft the photographer to that blessed abode where Art—with a

GOLD MEDAL AWARDED ST. LOUIS, 1894.

big A—reigns supreme, where the workman despises his tools and prates of soul and "the attainment of that inexpressible something which the artist feels, but cannot express in words, only in his medium; whilst too often his pictures are derided of the multitude and are caviare, save to the illuminati."

As to the evolution of apparatus since 1863 it is utterly hopeless to try and sketch in even the mere details. The modern hand camera was unknown, as also the roll film, film pack or plate. Solidity, weight and size were the main principles kept in view and a vest pocket camera was an undreamed of possibility. It would be, however, an unforgiveable hiatus to omit mention of the introduction of the now famous Jena glass, rendered possible by the clear farsightedness of the Prussian Bureau of Education in subsidizing, in 1882, Schott & Zeiss in their researches on the preparation of optical glasses, with varying composition and refractive indices, that have enabled opticians to produce the modern anastigmat with large aperture and more perfect correction, than was possible with the older forms of crown and flint.

More striking, however, than the advances of the pure technique of photography are those of its applications. More striking because they appeal the more forcibly to the popular imagination, and it must not be forgotten that, were it

BY M. LANGFIER; LONDON 1912.

not for the advances on the scientific and technical side, these applications would be impossible. Therefore, one may be excused in appealing for a somewhat wider recognition of the former. America has been far behind in this direction, although it is the birthplace and home of popular photography, but omens are not wanting that the stage of inaction has passed.

A rapid, cursory review is all that is possible, and I propose to mention only those applications which were absolutely unknown in 1863.

The use of photography for the analysis of vocal sounds by Toepler, Hermann, Koenig and others has done much to elucidate the phenomena of speech. Leonard's, Boys' and Worthington's researches on falling drops have completely revolutionized the old ideas and have shown us the true and individual stages that take place. In like manner the proof of the existence of stationary waves by Wiener in 1887 and their brilliant application by Lippmann to a process of photography in natural colors is a prominent milestone in the march of progress.

Still more striking, however, is its use in spectroscopy—in fact, it is no exaggeration to say that photography has absolutely revolutionized this science. It has opened up the whole of the invisible ultra-violet, that has now been as carefully and accurately mapped out as is the visible spectrum. The careful work of Eder & Valenta, Kayser & Runge, Schumann and others is now made available in monumental volumes, illustrated by exact photogravures, which will serve as charts for years to future explorers in this region. At the other end of the spectrum, the infra-red, Abney, Lehmann, Millochau and Burbank have done much, but by far above all stands out the work of the late Dr. Langley of the Smithsonian Institution. Here unfortunately we lack sensitizers. The silver halides are per se sensitive to the ultra-violet, with the isocyanines we can readily sensitize to the extreme visible red, beyond that we are called to a halt and can only use the photographic plate as a secondary agent.

In chemistry, Le Chatelier and Vogel have made their mark in applying it to the micro-chemical behavior of metals and metallic alloys. As the recording angel of the microscope, too, our science has completely displaced visual observation. Its records widely distributed are available to all, and cannot deceive as unconsciously the most conscientious hand drawing can. It is this very fidelity that makes photography so invaluable in astronomy, and to physics; the sensitive emulsion has no preconceived ideas and therefore does not read into what it sees that which it thinks. It is true that it has a bias, a bias towards blue and violet, but this has been corrected by color sensitizing and correcting screens. Great has been the achievement in the last 50 years in astrophotographic research, in the great interna-

JOHN A. TENNANT

ASSOCIATE EDITOR "WILSON'S" 1896-1904

BY S. H. LIFSHEY, BROOKLYN, N. Y.

tional star chart, etc., I believe that in the next fifty years greater advances still will be made by the use of color sensitive plates. We have no longer to wait for a solar eclipse to photograph the corona and its streamers, nor be content with a mere sketch of the surface of the sun. The work of Fox and Hale of Yale, Lowell of Arizona, Pickering of Harvard and Barnard of Lick, stands

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such exist—movements of the brains during thought.

Few know probably of the wide application of photography to the study of war or the means of war. Almost every country is secretly and quietly storing up day by day invaluable records of gun fire, the path of projectiles and the effect of powders on the rifling of guns.

The architect, the house agent and real estate man all use it either for recording the progress of work or as a means of selling houses, etc., whilst every daily, weekly and monthly journal is a monument to the increasing use of photog-

T. DIXON TENNANT
ASSOCIATE EDITOR "WILSON'S" 1906-1912
BY ROCKWOOD, N. Y.

raphy as an illustrative agent. The line and half-tone blocks have killed wood and steel engraving for these purposes.

Two years after WILSON'S was first published, Clerk-Maxwell, the famous English physicist, propounded his theory of the three-color sensations, and the possibility of a practical process of photography in natural colors. In 1867, Du Hauron and Cros, published their ideas

and since then, or more accurately since the discovery of the method of color sensitizing plates, we have seen grow up several processes, particularly the screen plate, of photography in natural colors. It is as easy to take a photograph in natural colors at the present day as it was in 1863 to take a collodion positive or ferrotype and it takes no longer. We can actually take photographs in all the colors of nature in a fifth of a second or less. Combining color with the illusion of movement as has been done in the case of the kinematograph or motion picture, it would seem that we have almost reached the ultimate goal of our desire, we yet long, however, for a process that will give us colors direct in the camera and that this will be eventually attained can hardly be doubted—it has been done, done five years ago by the bleach-out process, but the exposure was of course inordinately long.

With the motion picture, that is only now eighteen years old, everyone is familiar—but generally only in its popular aspect as a means of amusement. Personally I look upon this as only in its infancy. A far wider and more useful field lies before it as an educational means. You can teach far better and more quickly through the eye than by the ear, and showing actual operations, whether in surgery, mechanical engineering, architecture, forestry, etc., by means of the kinematograph is bound to be generally adopted.

Criminology has found a valuable helpmeet in our science. It is true that in 1854 a burglar was daguerreotyped in Lausanne but it is only since about 1880 that thanks to the work of Bertillon, Popp, Jeserich, Reiss, and others, that its real value has been appreciated in the detection of erasures in and alterations of documents, the photographing of finger prints, of the murdered and the places of murder. More than one bank note forger has suffered the penalty of the law through the photographing of lithographic stones on which nothing was visible visually, yet which on being photographed yielded up clear and distinct traces of the use to which they had been put. How many criminals have suffered through photographs of their finger prints will probably never be known. No matter on what surface they appear or do not appear we can if they are there photograph them as easily as we can take a snapshot.

Such progress as has been made during the last fifty years will be infinitely less than that yet to come in the next fifty, and he whose pleasurable task it may be to briefly sketch the same in the 100th jubilee of WILSON'S will smile probably at what we have done. Photography is not yet three-quarters of a century old, it has been to a great extent an empirical or rule of thumb hotchpotch, but it is rapidly emerging from this stage and much as we seem to know, at every turn we are brought face to face with the fact that we are ignorant of the fundamental and underlying scientific basis of the whole thing, and this we are just beginning to recognize. He who recognizes this has learned much, but he has also learned how much there is yet to learn, and how little he really knows. It is to WILSON'S and such like journals that one must look for education in the future, more so even than we have in the past, and every earnest minded thinking man will therefore wish it another 50 years of successful, useful journalistic life.

Be sure of yourself before you undertake an important measure and then stick to it through to the end.

The surest road to failure is discouragement.

Your enemies may knock you but they can not down you unless you depreciate yourself.

Some men succeed more rapidly than others, but this does not mean their success is more worth while and is more lasting.

AMERICAN PORTRAITURE THIRTY-FIVE YEARS AGO

BY H. ROCHER, CHICAGO, ILL.

PORTRAIT STUDIES MADE THIRTY-FIVE YEARS AGO IN FRANCE

BY ADAM SOLOMON, PARIS

REDUCED FROM 8 X 10 PRINTS

BY GIHON & JONES PHILADELPHIA, PA.
1869

BY J. GURNEY & SON, NEW YORK, N. Y.
1868

ILLUSTRATING "PICTORIAL PROGRESS"

DAVID OCTAVIUS HILL, R.S.A.
1804-1870

PIONEER OF PICTORIAL PHOTOGRAPHY IN SCOTLAND

MR. BRYSON, EDINBURGH

BY DAVID OCTAVIUS HILL, R.S.A.

MRS. JAMIESON

BY DAVID OCTAVIUS HILL, R.S.A.

LADY EASTLAKE

BY DAVID OCTAVIUS HILL, R.S.A.

BY DAVID OCTAVIUS HILL, R.S.A.

PREPARING NEGATIVES FOR PRINTING

BY GEORGE SMEE

It may happen that after a negative has been made (at times miles have been traveled to secure a particular scene or view), that through some defect it is found that the negative *must* be "doctored" or "dodged" as it is sometimes called, so that a good print may be made from it. One cause is through the plate being unevenly coated, so that the negative is much thinner at one end than it is at the other, this has caused an unequal density, which only becomes visible upon development. Another cause is due to the developer having flowed unevenly over the plate, or that the plate has been unequally covered with the developer by some slight mishap in the dark room, which may have brought about patches showing the unequal development, or it may be that the negative needs only a little intensification at one end, where the usual method of intensifying would bring about more density at the thick end while it was needed only at the thin end. Where any of the above defects occur they can be remedied in a very simple way. Clean the back of the negative well from dried water marks, or emulsion spots, and coat this cleaned part with a varnish known as matt varnish, which can be purchased ready-made, or it can be made easily from the formula given here. If this coating of a plate has never been tried before, practice upon one or two clean plates, 4 x 5 will do; draining the excess off at one corner into the bottle again. Wipe the excess from the lower edge of the plate, then fan the plate dry with a sheet of cardboard. When the varnish has become set, it will possess all the appearance of finely ground glass. The plate should be warmed slightly to bring about a fine surface, it can then be worked upon in the following manner: Take an ordinary leather or paper stump the same as those used by crayon artists, rub an ordinary black lead pencil upon a strip of ground glass, or apply a morsel of fine graphite, rub the tip of the stump upon this, then proceed to work upon the matt varnished face of the negative over the part, or parts that are less dense than the rest of the negative. This is easily accomplished by placing the negative against a window, or better still in the frame of a retouching desk, so that the progress of the work may be seen. It will soon be observed that the black lead applied in this manner causes an evening up of the defective part or parts of the negative, and being done upon the back of the negative instead of the front, the thickness of the glass aids in producing necessary effect without any decided edge showing where the correction has been made. Whenever it happens that the negative is a little thin, and the sky becomes printed so deep that it mars the other good qualities of the negative, the ground glass varnish, as it is frequently called, serves an excellent purpose, by enabling anyone to make up a clouded sky; with a little care the clouds can be worked upon the negative to suit the operator, or, better still, to represent natural clouds to suit the scene or view. Again, in this instance it will be found that the thickness of the glass aids in giving just that softness and cloud effect produced by nature.

If the operator wishes to make his own varnish instead of purchasing it, a varnish that is equal in quality to any that is made commercially, the formula given will meet every requirement. A clean ten ounce bottle, well dried, should be used in this place.

Sulphuric ether	4 ozs.
Benzole	2½ ozs.
Gum Sandarac	180 grains
Gum Mastic	40 grains

The bottle and its contents must be shaken occasionally until the gums are dissolved; when dissolved the varnish must be filtered to rid it of small chips and possibly insects. This varnish will give a very fine grain upon the negative, a coarser grain can be made by the further addition of benzole. The right quantity to cover the plate will soon be acquired by practice. Should some of it flow over the face of the negative, this can be easily removed by moistening a pellet of absorbent cotton in a mixture of benzole and ether, or benzole alone.

The application of matt varnish to a portrait negative will often times give several advantages. In the first place, it causes perfect diffusion of light, thus producing beautiful prints no matter whether the paper used be print-out or a developing paper. This diffusion of light brings about a delicacy not obtainable when the prints are made from the bare negative. The shaded side of a face prints too dark, all that is necessary is to apply a faint coating of graphite over that part with the stump.

In the case of groups taken on very bright days, especially out-of-doors, the shaded sides of the faces are decidedly improved by this simple method of treatment.

In fact, as far as local intensification is concerned, this is one of the easiest, most simple and effective ways of obtaining good results, without in the least degree injuring the negative.

This plan is far better than dabbing color upon the back of the negative to lighten up the shadows, there need be no fear of obtaining a sharp, decided line, showing the "doctoring" even if prints are made in direct sunlight as would be the case if a color worked up negative was used. Working up a negative as described is better than working upon tissue paper stuck upon the printing frame. No amount of shifting the position of the negative will cause either a false light or shade as would be the case with a fixed up "dodging" upon tissue paper.

Simplicity, ease of working, and highly satisfactory results can always be secured by the above plan of "doctoring" up the negative.

SOME HOLIDAY HANDICAPS AND HOW TO PREVENT THEM

BY W. I. SCANDLIN

One of the most discouraging, disheartening and most universally endured conditions pertaining to the practice of professional photography is to be found in the fact that one season of the year presenting the most favorable opportunities for obtaining business presents, at the same time, the greatest possible obstacles to the prompt and proper execution of the work. The few weeks immediately preceding the Christmas holidays are in almost every section of the United States most likely to be stormy and disagreeable, and to contain a larger percentage of dark and stormy days than any other period of equal duration throughout the year. When it is remembered, too, that the days, even when most beautiful, are of the shortest duration, and that the sun, on account of its low declination, is least actinic, the gravity of the situation is manifest. It is very difficult to awaken the holiday buying spirit in the popular mind until a time so perilously close to Christmas as to render the delivery of any considerable increase of output before that time impracticable without unusual effort and

high tension in every department of the studio or gallery. It is, therefore, manifestly important that every attention should be paid to getting out the work that does come to it with the least possible friction and loss of time. The photographer may well practice the advice he is always supposed to give his every sitter, and see to it that, however hard it may be, he himself looks pleasant at this time of the year of all times.

Friction interferes with the smooth and successful operation of any kind of machinery, and in nothing so much as human machinery, if it may be so called. Careful attention to the little courtesies of life, those things that make the human animals different from the other kinds, will go far toward oiling the wheels of the studio machinery, and will pay in increase of output and better quality of the product even though they produce no other result.

Another very important help at this short season is to be found in the systematic methods that should govern every step in filling the orders that come into the studio.

Arrange the work rooms and the appliances, if not already done, in such a way that no loss of time or energy results from having to do the same thing over again two or three different times. Use trays that are large enough to contain good, big batches of prints, and don't be niggardly in the use of developers or toning baths. A penny wise policy in this direction is often the pound foolish one when results are compared. System in the studio is worth a big percentage of cost in the making of photographs under the high pressure of the holiday rush. It must be inaugurated before the rush begins, however, if its full benefits are to be realized.

And now to touch briefly on a more tangible though not a whit more practical point—the subject of artificial light should receive the most careful consideration. If a source of light can be obtained that will enable the photographer to materially increase the number of exposures possible in a short winter day, and perhaps even to continue making them well into the evening or night, it is worth his while to know about it and, if possible. to possess one.

The writer has been much interested of late in noting the rapidly increasing number of good men who are waking up to the importance of this subject and providing themselves with artificial light for use in the studio and printing-room as well. Where a light can be obtained that will serve both these purposes as is now easily possible through the efforts of at least one enterprising firm of manufacturers, it seems almost a foregone conclusion that any studio making any pretensions of turning out even a fair amount of work must possess such an aid.

And still another point—don't try to economize in the purchase of material by the use of inferior goods of any kind; poor plates or paper of inferior quality add more to the cost of making the work even passable than is saved in their purchase and the results from their use frequently make the holiday order a disappointment to your customer rather than a source of pleasure and satisfaction.

People buying Christmas goods don't like to be put off with anything but the best, and a dissatisfied sitter at the holiday season is a bad investment for any studio at any price. Good material, care in every step of the work, prompt attention to the wishes of the most captious customer, everlasting patience and an appetite for work that becomes infectious throughout the studio will make the receipts from the holiday trade this year and every succeeding year show their proper percentage of profit over outlay.

Under these conditions the studio will be able to recognize the honest efforts of its most ambitious and conscientious employees at the New Year without grudging the expenditure, but in the assurance that the token and recognition of interest will be appreciated, as no doubt it will have been earned.

SOME THOUGHTS FOR THE NEW YEAR

Cheer up brother—

So you feel that you're a failure because you don't measure up to your own standards, every day in the week?

Buck up, brother! That's the way all good, go ahead men feel sometimes!

If they weren't dissatisfied with their performances as well as their promises, they'd be trotting around in a circle; and that means business dry-rot, if anyone asks you.

A certain amount of self-dissatisfaction is the best tonic in the world for the *genus,* man. It keeps him from broodin' on bein' a man—like David Harum's flea-bitten dog, you know!

As long as you can find fault with yourself and your work, you're alive, my friend.

When you get to the point where you feel sorry for other men beause they aren't such good salesmen, or managers, or presidents—or porters—as you, then is the time for the doctor to put you on a diet and prescribe perfect quiet—to keep you from going crazy about yourself!

Don't get the glooms over self-distrust. Ambition and dissatisfaction are half brothers, anyway!

Concentrate the customer's attention on one thing at a time; don't talk too much; talk positively. Avoid technicalities or theories; use simple language which is readily comprehended. Be sure to emphasize the accuracy of your work in connection with the use or fitting of the goods.

Remember that if a man is your friend this season he may become your customer next.

It is poor policy to "knock" a competitor. A "knock" often proves a boost.

Show a man that handling your goods means an increase in his business, and you've got him.

If you want a man's sympathy you must size up his peculiarities and moods.

Perfect taste is the faculty of receiving the greatest possible pleasure from those material sources which are attractive to our moral nature in its purity and perfection. He who receives little pleasure from these sources, wants taste; he who receives pleasure from any other sources, has false or bad taste.

Many a man has done his best work and reaped his richest reward after he was past fifty.

Talk, talk about your failures if you must, but speak of them softly in your room, not abroad among your friends.

Life would be terribly dull if there were not some failures blended with successes.

Do not mistake your desires for efforts; the one takes you somewhere and the other nowhere.

It is far better to do things than to tell people what you are capable of doing.

Remember that you are to be tried out time and again before you are to be marked as a failure.

If you count your blessings with your failures and disappointments you will be a happy man.

PHOTOGRAPHING CHILDREN

BY G. WATMOUGH WEBSTER, F.C.S.

THE Editor of WILSON'S has been good enough to express his appreciation of photographs of children that I have made, and has asked me to give to his readers some details of my experience. This I gladly do, though I am strongly of opinion that if it is true that *poeta nascitur non fit* the apophthegm would be equally true if for poeta we substituted "Children's Photographer.' If beyond that I were asked what are the chief qualities required in undertaking such work, I should say patience, patience, and again patience. I have, myself, never once lost my temper while photographing little people in an experience lasting over half a century, and once, and only once, in all that time did I have the humiliation of seeing a child leave the studio without one or more negatives being taken—not always very satisfactorily yet, still, records of the child's face and features—and the mother saying "Oh, he is very naughty, we will bring him again another day.". *En passant* I may say that one child is now the father of a large family. As I need not say, my first tool was wet collodion, and for many years I used one of Voigtlander's baby lenses working at F.2, which later gave way to a Ross lens constructed for a similar purpose, but which I eventually abandoned after the advent of the dry-plate for the more ordinary Petzval portrait lens. The dry-plates of modern make have had their rapidity so much enhanced that a lens for the purpose need be chosen not on account of its extra rapidity but rather for its own intrinsic qualities. Using ordinary portrait lenses I rarely put in a smaller stop than F.5, this on specially dull days I would work at full aperture. There are anastigmatic lenses now made that can be used at F.4, and the power to have a plate sharply covered to the corners is not to be ignored; yet I have not found one of the anastigmats approach a Petzval formula lens of good quality for sharp definition within the scope of its own limited field, a point of considerable importance when a question of enlarging arises; besides, I don't belong to the fuzzytype school. I really think that the instrumental outlook is the least important; but at the same time it is desirable to have a first-class lens and an easy working camera with a silent shutter, and *plenty of dark slides are necessities;* I think nothing of exposing a dozen plates on a child subject; if economy in plates be studied it is good bye to certainty of obtaining good results. There are several studio cameras on the market that enable the plate to be put in position for exposing in the briefest time after focussing, and this is most important with such subjects as young children. The camera stand, too, plays no small part in contributing to success, it must be easily lowered or raised, and it is a great advantage to have one that permits the camera to be brought near the floor. An ordinary stand does not as a rule allow sufficient tilting to permit of the whole of the subject being included, especially when the camera is brought near to the sitter to get it on as large a scale as possible. The advertising pages of this magazine, however, will enable plenty of choice to be given for selection.

I have never used special children's furniture or contrivances with weird structures and straps and buckles and things for holding the child in an unnatural pose, a baby three or four months old for instance strapped up so as to sit up as straight as its grandmother—simply hideous! My most valuable asset for the purpose is a large square-topped old oak table on which the younger fry can be posed, or, better, pose themselves. The addition of a soft-backed chair, a curtain, a shawl or two, and an assortment of rugs enable an almost infinite variety of changes to be arranged. It

pose itself far more pictorially
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wrong, and fire away a lot of
you feel you have made some g
On average days I find workin
can get a good negative in fro
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posure can easily be spoiled ev
brief period of time all the
course the little sitter is res
moving in and out of focus pe
and one has to be on the *qui vi*
cessation lest a good portrait b
have eighteen feet of tubing to
ter with a 3¼ in. bulb and worl
one toy or another I am perpet
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era and child, keeping out of
the lens, and, with bulb in hand
for a suitable moment which
arrive for many minutes. Ter
ing work! By and by the moth
to intervene "don't look like tha
your mouth still," etc. notwith
previous instructions. At onc
my finger in my mouth I sa
"whatever you do don't allude
ticular feature," "and tell the
smile." The horror of it! A
word of command! Such a sn
would be! I am assuming that
we have got on talking terms
sitter and much depends on this.
thing to get the child natural a
I possess three particular toys w
been almost worth their weight
to me—a woolly ball, a m
chicken which hops about, an
cow—a "voice-cow" they call
toy shops. It has been long in
horn is gone, one eye, and or
legs is broken. It is infinitely n
ful then when brand new. I as
know about the cow that "jum
the moon," and would they lik
it as I have it. Of course the
and I bring the toy cow out
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its painful experiences in losin
rious limbs, etc., and then we ge
of it by asking it how the "l
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lar showman's patter. I gene

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ılar toys which have
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w that "jumped over
ould they like to see
Of course they assent,
:oy cow out and they
tention to the story of
ıences in losing its va-
ınd then we get fun out
it how the "little dog
ıch sport," in fact regu-
patter. I generally get

all I want without bringing out any other toy. Sometimes a child will remain solemn through it all; but I almost always find the woolly ball to mend that. I toss it to the mother and she catches it, sends it back to me, and so on, sometimes to the child—the outstretched hands often

BY E. B. CORE, N. Y.

help to make a pretty picture. It is astonishing how successful the ball is in raising a smile when everything else fails. It will occasionally happen that every toy in the place is requisitioned and the floor and couch covered with them. During the progress of the work one constant trouble arises, and must be provided against. The little one pulls its frock about, perhaps half hides its face with it: in many ways assumes delightful attitudes and then comes the most temper-trying of all. You are just going to squeeze the bulb and secure a pretty picture when out pops nurse's hand and pulls the frock straight, or, at another time, just when a picture is before you, reaches out her hand and pulls a stocking crease into straightness and so on. There is only one word in the language sufficiently expressive to use: but unfortunately you have to strangle it in its birth and substitute "Oh."

I should like to emphasize my advice about telling the mother to say nothing about photographing to the child by narrating one of my experiences. A lady brought her little girl a distance of eighty miles on purpose for me to photograph her.

BY E. B. CORE N.Y.

Shortly after they got in the dressing room the child began to yell and scream. I waited for this to subside; but it increased till I thought her little one is make herself ill. By and by the mother comes to me. "Oh, Mr. Webster, I am so sorrry, I shall have to bring girlie again; it appears nurse took her to some cheap photographer, and he was very rough with her. She is dreading the same treatment again." "Just wait awhile I think I can manage," I said "go back to her." She went, I just popped my head in at the door, never looked at the child, and said "I've sent that photograph man away, and there is no one in the nursery now you can go and get the toys out." In ten minutes I was playing on the floor with that child and the toys, and I got a charming picture of her, though it was difficult work as I had to make the exposures between the great sobs after the weeping that shook her little frame. I can safely say that my chief experience of crying children is when my work is done and they have to go. It so often happens, that then the weeping begins because they have to go, and there is often quite a scene.

I think I have exhibited enough of the Ego to tire my possible readers but that the nature of this article necessitates it must be my apology. I will conclude by giving another of my experiences to point the moral—patience.

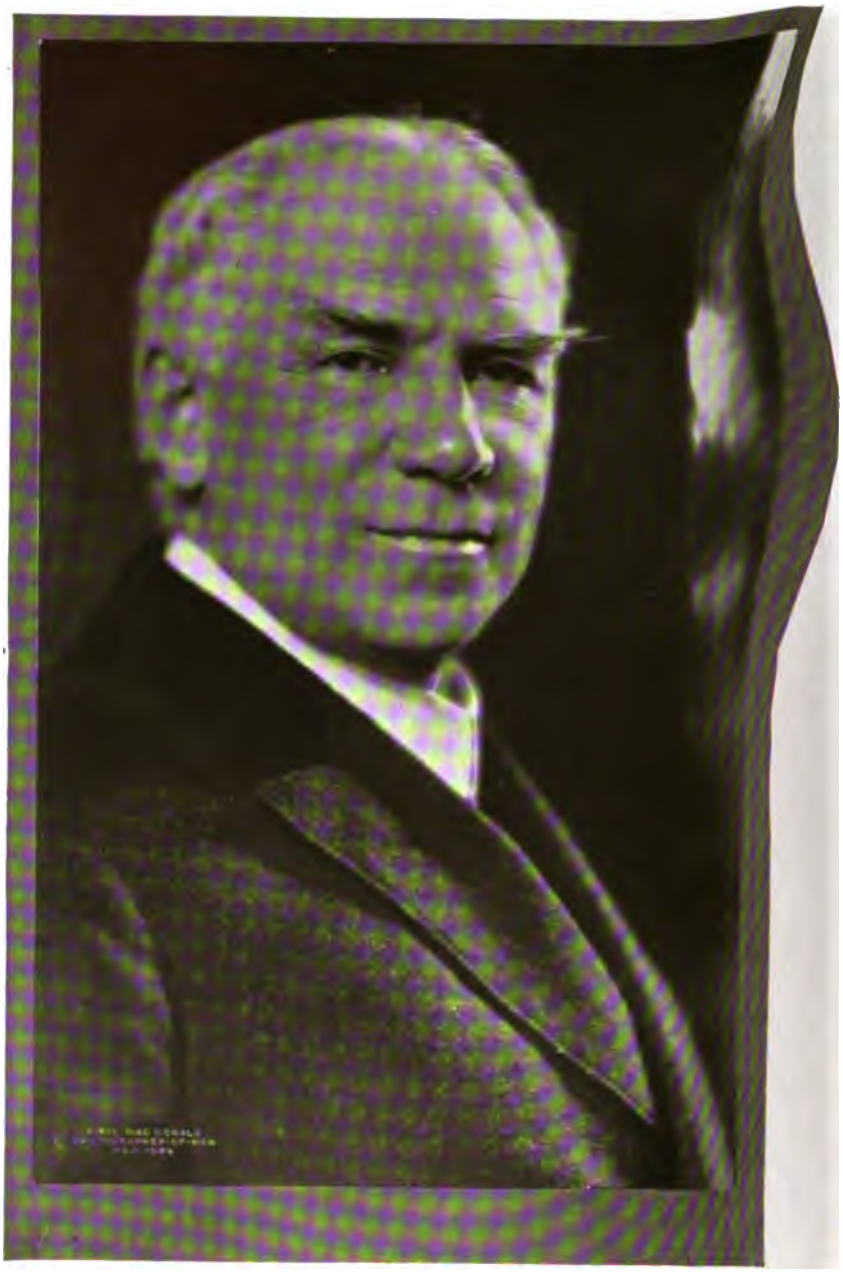
It is some years ago I received a message that a party of all Mr. Gladstone's grandchildren were coming to be taken in a group—eleven of them. Well, they came, and three nurses with them. After dressing they trooped into the studio and I posed them for the group leaving a vacant spot for the youngest who seemed a bit intractable. He grew more so and despite all the blandishments of the combined army of nurses he obstinately stuck to the camera end of the studio: nothing would move him. Desperate, I got out my big box of wood bricks, and began building them on the floor half way to the group. Gradually he sidled up to them, but would not go a step nearer the group. We got very busy with the bricks, but the little d—, I mean child, would not budge, and it seemed a complete impasse. At last to his particular nurse I went and told her to join us. "Bring your chair close up to him and stick your knees in his back but don't push him." My instructions were followed with the expected result that he edged away from the knees. The process was repeated I meanwhile busying myself and the child with building the bricks always towards the group. In twenty-five minutes by the clock we had him kneed into the required position within a few inches, beyond which he would not go. At last I got an excellent negative after making a record series of exposures—49 plates! And I felt proud of my generalship.

BY E. B. CORE, NEW YORK, N. Y.

ILLUSTRATING "PHOTOGRAPHING CHILDREN"

BY E. B. CORE, NEW YORK, N. Y.

ILLUSTRATING "PHOTOGRAPHING CHILDREN"



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"I THINK THIS PRINT IS ONE OF THE BEST GROUP COMPOSITIONS EVER MADE BY A PROFESSIONAL PORTRAITIST" SIDNEY ALLAN

NOTABLE AMERICAN PHOTOGRAPHERS AND THEIR WORK

I.—FREDERICK GUTEKUNST

PRIOR to the beginning of this MAGAZINE its founder, Edward L. Wilson, was associated with Mr. Gutekunst, and often heard the veteran portraitist refer to the details given in the following record.

As the men and landmarks mentioned in this historical note are fast disappearing from among us, we are sure that our readers will agree that the matter is worthy of preservation in our pages.—[EDITOR W. P. M.]

In these days when there is an amateur photographer in nearly every household, it is interesting to note that all of the earlier professional photographers were amateurs at the outset. This is true of the Dean of the profession, Frederick Gutekunst, the veteran, who has maintained a famous gallery on Arch street, Philadelphia, for over sixty years. The story of his career is that of the development of the photographic art in that city, which has contributed as much as any one city in the world to the inventions and discoveries that have made the business of taking pictures what it is today.

Frederick Gutekunst was the son of a German cabinetmaker, who, upon coming to this country, settled in Germantown, where Frederick was born in 1831. The boy, after receiving a common school education, began his experiments while in the employ of Avery Tobey, a druggist, at 1215 Market street. Here, while attending strictly to his business, he gave some attention to chemistry and electricity—the latter a science which had not then advanced much beyond electroplating, electrotyping and telegraphy. Daguerreotypes, although they had been made for several years, were still regarded as great curiosities. Young Gutekunst conceived the idea of making copper electrotypes from daguerreotypes, and succeeded in doing so, though the process did not become of commercial value, because of the advancement of the art in other directions. Nevertheless, the product of this experiment—a portrait of Mr. Gutekunst himself—is an interesting example of the beginning of reproduction processes. Mr. Gutekunst made three of these copper plates from one daguerreotype, and has one of them framed, hanging in his studio.

Mr. Gutekunst's experiments in electrotyping led in a very strange way to the adoption of his profession. Dr. Isaac Norris, afterward Secretary of the Franklin Institute, then a young man, had been experimenting with daguerreotypy, and had heard of young Gutekunst. He sought the latter's home and proposed to exchange his camera for the latter's electrical battery. Gutekunst willingly made the bargain, for he had been a frequent (volunteer) sitter at Root's gallery, and was greatly interested in the relatively new process of picture making. What Mr. Norris did with the electrical apparatus is not recorded, but Mr. Gutekunst experimented under great disadvantages, mainly because of want of light, with the camera. He succeeded in getting images of some sort, which only whetted his appetite for something better. He wanted a better lens, and when he had saved $5 he started from his drug store to advertise his needs. On the way down Market street he came to the ambrotype gallery of a man known as the "Buckeye Blacksmith," and, seeing the proprietor at the door, asked him about the process for

coating a plate for ambrotypes, at the same time explaining his errand in advertising for a lens. The "Buckeye Blacksmith," who cannot be more definitely identified in this veracious history, replied that he had a lens to sell, the price he asked for it was $5, and this was the exact amount which young

FREDERICK GUTEKUNST

Gutekunst had saved for its purchase. The bargain was quickly made, and with his new lens Mr. Gutekunst began his amateur career as a taker of pictures. His only leisure time was during the noon hour, but as an enthusiastic amateur he was always ready to sacrifice his dinner for the opportunity of taking a picture.

The hardware store had been kept open late; when it was closed the proprietor and young Gutekunst started together to their respective homes at Fourth and Branch streets. Passing through Arch street with a companion Mr. Gutekunst noticed that 706 Arch street (then No. 164) was for rent. He remarked that it would be a good place for a gallery, and on his arrival at home mentioned the house to his brother. The latter at once said that the place should be rented on Monday morning, but Frederick went to his work as usual. In the course of the day he was informed that his brother had taken the Arch street house, and he was, therefore, obliged to give notice to his employer that he intended to leave, which he did with regret.

The gallery was quickly fitted up with the necessary skylight, and Mr. Gutekunst began in 1856 his long career as a professional photographer with his $5 lens. His camera-box had been made by himself with the aid of his father, for amateur work. Success attended the undertaking from the beginning, and gradually the outfit was improved.

The business grew apace with the growing demand for pictures. It grew amazingly with the opening of the Civil War, for then every soldier had to have his photograph taken, and so did all his relatives and his close friends. Photographers flourished as never before or since, and for years after the war some galleries lived upon the business brought them by the mere possession of old-time negatives.

Growth of the business led Mr. Gutekunst to add the upper floors of No. 704 Arch street to his gallery at 706, and thirty years ago he moved to the commodious building, 712 Arch street, since occupied by his galleries.

A few years after Mr. Gutekunst had established himself as a professional photographer the Photographic Society of Philadelphia was formed, composed of both professional and amateur photographers, of which Mr. Gutekunst was an original member. The fortieth anniversary of the society was celebrated at the stated meeting, November 12, 1902, at which interesting reminiscences of the early days were given by John C. Browne and Mr. Samuel Sartain, and the latter exhibited a complete outfit for taking of daguerreotypes. This, he said, was one of the three earliest outfits used in Philadelphia. It was made for Dr. Paul Beck Goddard, an assistant to Dr. Robert Hare, Professor of Chemistry in

CARL SCHURZ
(1899)

GROVER CLEVELAND
(1903)

BY FREDERICK GUTEKUNST, PHILADELPHIA, PA.

the University of Pennsylvania, the maker being Joachim Bishop, a mathematical instrument maker. Dr. Goddard lived on the east side of Ninth street, above Chestnut, and one of his earliest pictures was of the University buildings opposite his home. Dr. Goddard probably learned at once of Daguerre's announcement in the summer of 1839 of his important discovery, for it is certain that in the fall of 1839 three Philadelphians were experimenting with the process. They were Dr. Goddard, Joseph Saxton, and Robert Cornelius. The latter was a sheet metal worker, and was probably led into the business by the demands made upon him for silvered copper plates, on which daguerreotypes were taken. He perfected the process of making and polishing them. These three men owned the three cameras, etc., heretofore mentioned, and all were diligently experimenting therewith in November, 1839.

Dr. Goddard discovered that bromine greatly accelerated the action upon the plate, and this discovery was almost as important as that made by Daguerre, for the original process was not commercially practicable. An exposure of ten minutes in strong sunlight was required for the plates made with iodine alone, which rendered portraiture almost impossible. Dr. Goddard imparted his secret to Robert Cornelius, who soon afterward, early in 1840, began the business of taking portraits at the northeast corner of Eighth street and Lodge alley (now Ludlow street), just above Chestnut street. The use of bromine was kept secret for two years; soon after it had leaked out and when rivals had appeared in the field Mr. Cornelius gave up the business and subsequently became a member of the firm of Cornelius & Baker, manufacturers of gas fixtures. Mr. Cornelius, some years afterward, presented to Frederick Gutekunst, a daguerreotype which he said was the first taken in Philadelphia.

Dr. Goddard's increasing practice led him to abandon his experiments, and he sold his picture-making apparatus to John Sartain, the famous engraver, whose son, Samuel Sartain, exhibited it at the Photographic Society. Mr. Gutekunst also has complete apparatus for making daguerreotypes, and has felt disposed of late to revive the beautiful art. Mr. Sartain says that the instructions accompanying the apparatus did not include the use of bromine, which was still a secret in the hands of Mr. Cornelius.

Inventions followed quickly as soon as the principle had been discovered, and it was not long before ambrotypes supplanted daguerreotypes altogether. Occasionally a good ambrotype is seen, but, as a general rule, they are not equal to the daugerreotypes of the same period. In the best practice the ambrotype was made on a piece of plate glass coated with collodion, sensitized with iodine and bromine. This was dipped into a bath of nitrate of silver, and while wet was exposed in the camera. The picture was developed with an iron solution and fixed with hypo or cyanide, the latter being generally used. Having been dried, the glass plate bearing the picture was sealed with Canada balsam to another plate, through which it could be viewed, and its back coated with asphaltum varnish as a backing. Ambrotypes thus made are very durable, some being as good as ever after the lapse of fifty years. The process was further simplified in the ferrotype or "tintype," which was made in a similar way on a piece of black enamelled iron. It required no backing, and was varnished to protect the film just as we see it today.

All of these processes labored under the one disadvantage, that they provided no means of reproduction; a sitting was required for each picture, except that, sometimes, a battery of lenses was used in which case as many pictures would be made as there were lenses exposed upon the sitter. Dry plate photography displaced them all because of its many advantages, chief among these advantages being that there is no limit to the number of pictures which can be made from one negative.

For a great many years the wet process was used exclusively in photograph

galleries, and it is still employed for making reproductions in photo-engraving establishments. The introduction of gelatine plates, which displaced collodion, was gradual.

Amateurs in the early days were, generally, either chemists or artists, and thus brought to the work some special aptitude or fitness. They had to make their own apparatus at first, prepare their own plates and mix their own chemicals. Some of them made their lenses as well as their camera boxes, and not a few prepared the chemicals they were to use, for there were no supply houses except the drug stores. Down to the present day there are amateur photographers who perform all the work involved in the taking of a picture themselves, even to coating the paper upon which prints are made, and all who are worthy of the name develop the negatives and print their own pictures, preferably using developing and toning solutions prepared by themselves.

From the beginning to the present day Mr. Gutekunst has taken a great pride in his profession, and has personally supervised all the work of his studio, from the taking of the negatives to the printing, mounting and other finishing processes. He has, of course, been obliged to employ assistants in all branches of the work, but has always retained direction, and to-day, in his eighty-third year, is always to be found at work in his galleries during business hours. Because of his love for his profession, he has been ambitious to make photographs of men eminent in their several professions, and his collection of negatives of distinguished characters is probably equalled in few galleries in the United States. He has, likewise, been extremely conscientious in the delivery of prints. They may be satisfactory to the sitter, but if they are not regarded as satisfactory by Mr. Gutekunst, he will not permit them to go out, but insists upon a new sitting. The product of the gallery is thus kept at a high standard.

PRACTICAL NOTES

Sometimes when the photographer is asked to lend a valuable negative for the production of prints for publication, it is desirable to first make a duplicate negative to hold in reserve, lest the original be damaged or lost. This may be easily accomplished by the following method, which gives a negative directly from a negative. If carefully managed, the duplicate negative will hardly be distinguishable from the original. Make two solutions: No. 1, Le Page's fish-glue, 1 part; glucose, 4 parts; water to make 10 parts. No. 2, ammonium bichromate, 1 part; water, 10 parts. For use, mix equal parts 1 and 2, and filter. Coat a piece of clean glass with this mixture, drain off all superfluous solution, and dry by heat in a place free from dust. When this plate is quite dry and hot, warm the negative thoroughly, and place the two in contact in a printing frame. Expose in diffused light for five minutes, and then develop the image on the gummy plate by dusting fine plumbago over the surface. When sufficiently developed coat the image with collodion, and immerse the plate in a 5 per cent. solution of sulphuric acid. Now wash until all yellowness disappears, and coat with a thin colorless varnish to hold the film on the glass.

To Change Blue-prints to Brown.—Immerse the blue-print until almost completely decolorized in a bath composed of one ounce of liquid ammonia in nine ounces of water. It is then rinsed and soaked in a weak solution of tannic acid, about one ounce of the acid to fifty ounces of water. The brown tone develops slowly, but surely, as long as five hours being required in some instances. Five drops of liquid ammonia added to the acid solution accelerates the operation; when the desired depth of tone is reached the prints should be thoroughly washed.

HOW TO MAKE A STUDIO PAY

III.—THE TREATMENT OF CUSTOMERS

BY FRANK FARRINGTON

THE way you treat your customers has more to do with sending them off feeling satisfied with your studio than the price you charge them or the class of pictures you give them.

Price has always been considered of paramount importance in the mercantile world and merchants have thought that the best way to get the trade was by selling goods cheaper than others sold them.

Price *is* important, of course. There are not many of us but have to consider what it costs, but service is more important. After the money is gone we forget how much we paid and remember how we were treated and what class of goods we got.

Of course, all classes of patrons must receive equal treatment. We cannot obviously favor the folks with the most money without losing the good will and the business of those who have rather less to spend.

There are few lines of work in which more patience or tact is required than is needed in professional photography. Also it calls for a varied assortment of personal qualities.

The photographer must be possessed of courtesy and affability in order that he may meet his patrons as a gentleman should meet them. He must be a salesman. He must be a good workman. He must have a well developed artistic sense. He must know how to get along with all classes of people. He ought to be a clever mechanic. He can find use in his occupation for just about all the qualities that go to make up a successful business man, professional man or merchant.

The photographer who can hire a reception room assistant may be able to hire the quality of salesmanship. He who can hire an operator may be able to hire the technical quality of photograph making, but the average photographer for whom hired help is a luxury either all or part of the time, must be all things himself.

As far as possible the patron coming into the studio ought to be met at the door, or at least greeted immediately after entering. I say as far as possible, for it is manifestly impossible for the proprietor of a one-man studio thus to meet anything like all of his patrons. He must see them, however, just as soon as he can after they come in. For every minute a customer in any kind of a place of business has to wait there is a lessening of the buying interest.

When the proprietor is busy and cannot give a visitor immediate attention, it is often possible to say a word that will show the waiting one that he or she is noticed, and frequently there is opportunity to find out without delaying the patron whether the newcomer merely wants a moment of attention or will requite time for a sitting.

In this connection I would advise any photographer to try to arrange to have some attendant in his reception room at busy times. It is often easy to secure this assistance from some high school girl who will welcome a means of earning a little money while able to study at odd times. And if a young assistant of this sort is secured who takes an interest in photographic or art work, it will be found that she will make herself valuable and useful in more ways than are expected. The man who is tied fast to his studio will find that with such an assistant who can even do little more than entertain customers while they wait, he can get out for an hour of recreation now and then with profit.

If there is one thing that patrons appreciate more than another it is promptness. None of us like to wait. Impatience is native to everyone. This promptness ought to be carried through the whole business. It ought to go fur-

ther than merely waiting on the customer or sitting the subject without delay. It ought to begin, of course, with such service, but it ought to continue in having proofs ready at the earliest date mentioned and in delivering the finished work right on time or ahead of it. It ought to concern itself with having everything kept up to schedule. Of course, the place for promptness to begin is with the promise of the delivery of the work. Plenty of patrons who would find no fault if told the work would not be ready in two weeks raise the worst kind of a rumpus because it is not ready in ten days when promised in one week. Be sure of yourself when you make your promises. Don't lay out a schedule you cannot follow.

Politeness or courtesy toward patrons is the best groundwork for a good studio policy. No one has yet found anything that will take the place of such important attributes.

You cannot be a good salesman and not be polite. The visitor to your studio is going to be attracted or repelled at first by your personal manner. Your success in securing and holding the patronage is dependent upon politeness.

Part of the success of your studio is going to depend on the artistic appearance of your output. You must decide early in your career whether you are going to work for a purely artistic reputation on a high professional plane, or whether you are going in for a business success. If you are going to devote yourself entirely to becoming a success as an artist, these chapters will not fit your case entirely since it is my aim here to point the way to a greater business success.

The necessity for deciding on your policy is due to the fact that it is going to be important for you to know what attitude to take in treating the customer who wants something you know will be an artistic failure though it may prove the greatest kind of a profit making deal with the individual customer.

If you are working for artistic effects or none and Mrs. Newrich insists upon having her photograph taken in a gown and with a pose that will make a picture that will emphasize the defects of her face, figure and dress, you will have to decline to follow her wishes and it may be that you will lose her custom by the means. But if you are in business for revenue only, you will have no quarrel with any pose that will please the subject, regardless of what others may think of it. Of course, you will in any case divert a desire for an unfortunate pose if possible, and you will use the utmost tact in your endeavor to get the effect you want in a way to please the subject.

Regardless, however, of what your personal tastes may be in the matter of pose, dress, finish of the picture, etc., it is well to remember that the business of selling anything, even a photograph, rests upon the necessity for pleasing the person who pays the bill. The individual who is supplying the money is entitled to have a good deal to say about what the money gets. And I have known, and so have you, photographers who called themselves artists who notwithstanding the appellation might well listen to their patron's opinions on the matter of finished product.

It is not worth while to go too far in the pursuit of artistic effects. If a customer comes in with an atrocious oil painting and desires an equally atrocious gilt frame put upon it, if you have the moulding, make the frame and take the money. The picture will be hung in appropriate surroundings and the customer will be suited, whereas if you tried to adjust the matter of frame to make the picture look less bad, you would waste time and end with a dissatisfied patron.

There is one important point to be considered in connection with your business and that is the need for honesty. You must be honest with everyone with whom you do business. You must be as quick to ask an adjustment of an error in an invoice for goods when that error favors you as you would be if it were against you. You must see that no advantage is taken of a customer in any respect. Good, old-fashioned honesty has

become fashionable in business, and the man who is once caught doing some little, underhanded thing for the sake of gaining a dishonest penny will never stand the same in the eyes of his public again—and news of such things spreads far and rapidly.

There is perhaps less opportunity for misrepresenting goods in the photograph business than in the actual sale of merchandise, but there are opportunities enough, and when a man sells camera supplies and pictures and does framing, he can be dishonest and not half try.

Honesty ought not to stop with mere technical adherence to the rules of avoidance of theft or lying. There ought to be practical as well as theoretical honesty, honesty of the kind that does not stop with not stealing a man's purse but that goes on and hunts up the owner of the nameless purse found on the street.

The "money back if you want it policy" is followed in all the best mercantile establishments nowadays. This consists in going to the limit to give the customer satisfaction. Conditions in photography are not like those in the store. When a man is selling service as a doctor or a lawyer sells it, he cannot very well do business on the "money back" plan. The photographer's position is something like that. When you sell a man a camera, you may agree to refund money if the machine is not satisfactory, but even then failure to secure photographs will be the fault of the purchaser rather than of the machine itself and just because a man buys a camera and has not intelligence or perseverance enough to make it do satisfactory work is no reason why you should buy it back at second-hand for full price.

There should, however, be some basis on which to guarantee satisfaction and it is that that is bound to be the keynote to the success or failure of the studio. There should be a set of rules to cover the various transactions that may take place between proprietor and customer so that when the transaction proves unsatisfactory it can be adjusted to the customer's agreement.

The rule regarding cameras may well be that the machine is warranted in perfect condition when sold and that any breakage from defects will be taken care of in accordance with the terms specified by the makers. Regarding supplies such as chemicals, plates, films, etc., there ought to be little trouble in showing the buyer that these are sold with the makers' guarantee and when they show apparent reason for complaint it is worth while to pursue a liberal policy and replace them with new goods. In some instances the dealer will be taken advantage of perhaps, but it is better to purchase a reputation for willingness to do the right thing even at some considerable cost than to let a customer go away disgruntled.

When it comes to guaranteeing the effect of a framed picture this, of course, is not a logical thing to do except as the frame maker might feel so sure of the frame he proposed being effective that he might be willing to guarantee satisfaction.

It is in regard to photographs made that the greatest care ought to be used. The best and safest rule is to expect the customer to take the pictures after ordering from the proof, whether the finished result suits or not. We all know how rarely the subject is entirely pleased with the result. To guarantee absolute satisfaction with the result would be utterly impractical. Stop with guaranteeing a satisfactory proof. There are endless details in individual transactions and no generalization can cover them all. If you are willing to make negatives and show proofs until the customer is satisfied, and if you make up the photographs in the style ordered, finishing them like the sample shown, certainly no more can be asked. Many photographers will not go as far as this.

In the treatment of the customer then, the object is to please the customer. Anything that can be done to accomplish this is good business and rarely proves unprofitable in the end.

Previous Articles, "The Man and the Location" (Oct.) "Buying and Arranging the Stock" (Nov.) Subject Next Month, "How to Know the Profits."

BY J. H. GARO, BOSTON, MASS.

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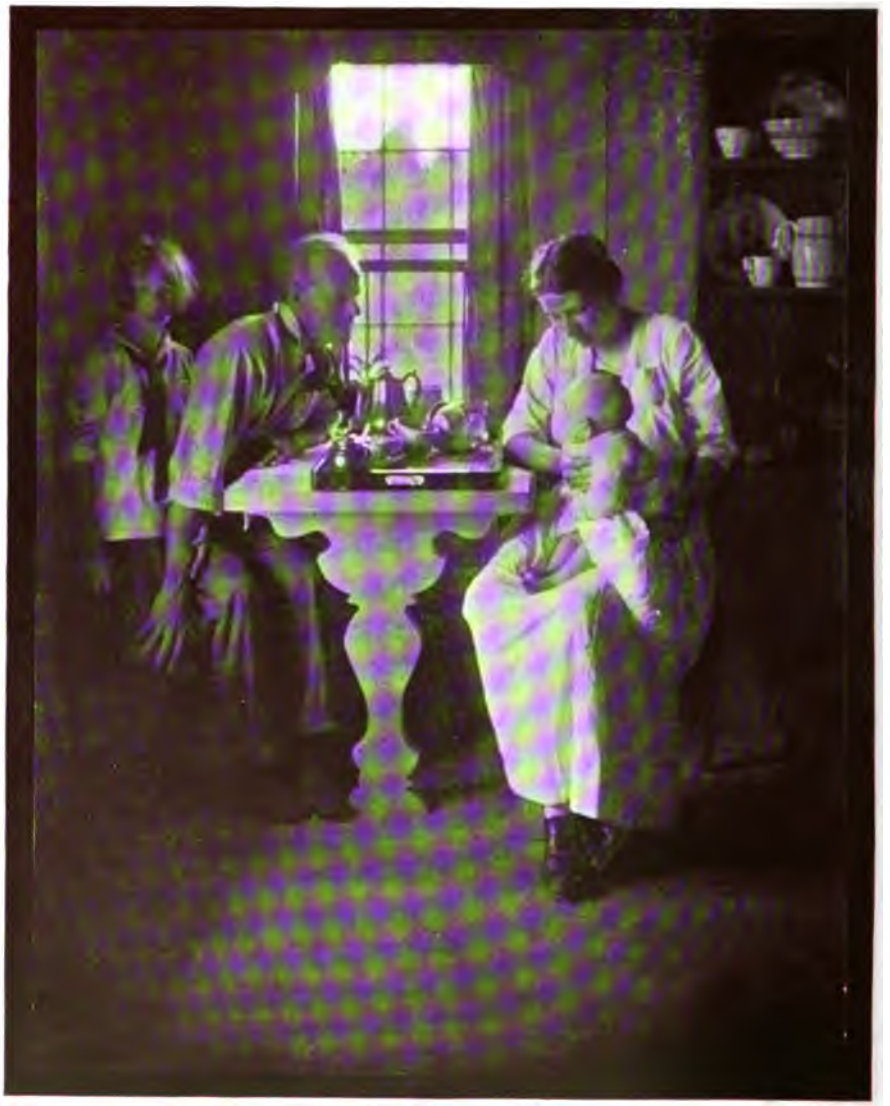
BY GERTRUDE KASEBIER, NEW YORK, N. Y.



BY GERTRUDE KASEBIER, NEW YORK N. Y.

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BY CLARENCE H. WHITE, NEW YORK, N. Y.

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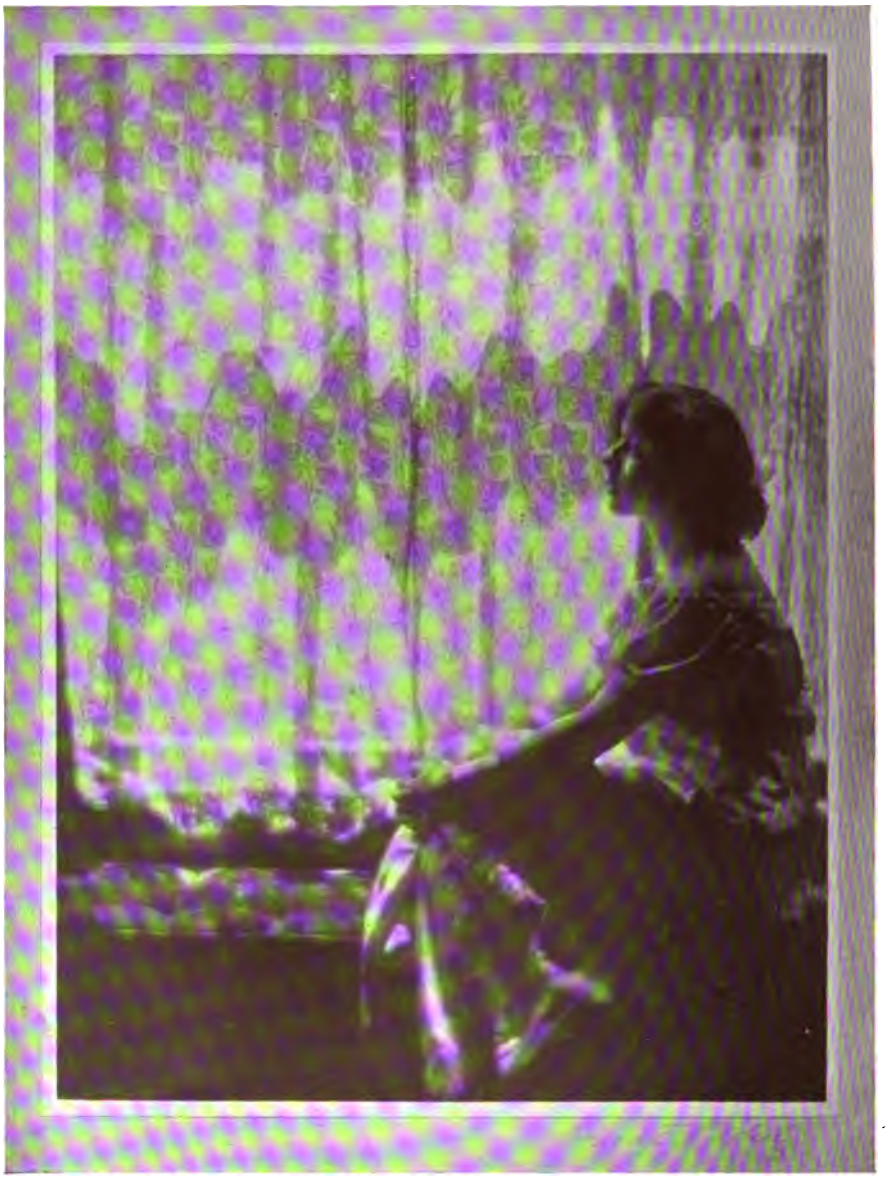

BY CLARENCE H. WHITE, NEW YORK, N. Y.

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BY PEARL GRACE LOEHR, NEW YORK, N. Y.

BY FLORENCE MAYNARD, PHILADELPHIA, PA.

MINIATURE CAMERAS AND THE SHORT-FOCUS ANASTIGMAT

PART II.

BY CHARLES F. RICE

PLATES or film?

This question has been argued many, many times; but it may be I can contribute something on the subject as it applies particularly to the miniature camera. First let it be understood that when I mention "film," roll film is meant, not film pack. I say this because almost any camera, including the miniature cameras, primarily intended to be used with plates, *can* be used with film pack if it is so desired, although personally I do not recommend the pack; but the small size roll film cameras can use roll film only. There are no plate adapters for them, and the choice is a hard and fast one between a plate camera and a film camera. I have used both kinds of minature cameras—plate and film—and from experience I can say that one does not always get negatives on film that have as fine detail as do the plate negatives. This cannot be noticed by examination of the negatives themselves, nor by the contact prints from those negatives. But enlargements tell the story plainly. It can only be accounted for by the fact that film does not afford the perfectly flat surface that is furnished by the glass plate—either in the camera or in the process of enlarging. And, of course, any little unevenness of surface in the film throws out the focus. Another point in favor of plates is that they may be obtained in great variety—slow or fast, orthochromatic or plain—to suit the particular requirements of the subject in hand. For instance, you can have half the holders loaded with very fast plates like the Lumiere Sigma, and the other holders filled with double-coated orthochromatic plates, like the Orthonon; and then you are ready for any subject that presents itself. Film, generally speaking, comes in one grade only—fairly fast, but not extremely so, and somewhat orthochromatic but not nearly so color-sensitive as the ortho plate,—sort of a compromise, made to suit a wide variety of subjects fairly well. Weight and bulk, which count heavily against glass plates in larger sizes, do not argue so effectively in the case of the little plates, a dozen of which would almost go in a match box. Then again, film is much more liable to scratches and markings than plates, and when negatives are used for enlarging these scratches and marks are magnified, too.

After all this argument in favor of plates, let me confide that the little camera I have in my hip pocket now, and which I carry with me wherever I go, is —a roll film camera! Why? Because of its convenience. It is all together, in one pocket. With a plate camera there is always another package to carry—the plateholders. The fishermen tell of the big fish that get away, and I can vouch for several good snaps that "got away" from me by just the time that it took to pull the slide out of a plateholder. With the film camera I should have captured them. If I had to choose one camera, however, for serious work, it would be one that used plates.

For the purpose of demonstrating the advantage of employing a short-focus lens, subsequently making the finished print by the process of enlargement, I made a series of exposures one after the

other on a portrait subject, posed in practically the same position, as follows: with a 3-inch lens at a distance of three, six and twelve feet, respectively, with a 4¾-inch lens at the same three distances; and also with a 7-inch lens—making a set of nine negatives. F. 6.8 was the opening used on all. It may be of interest, that the 3-inch lens was used with roll film, while the others were used with plates. I made a contact print from the negative exposed at a distance of three feet with the 7-inch lens, and then made 5 x 7 enlargements from each of the other negatives on such a scale that in all the prints the figures would be of practically the same size as in the contact print. They are not all of the same proportions, however, and that is one of the significant points which is observed from an examination of the prints. We see, for instance, the difficulty that our old friend of the 20-inch lens had with magnified hands when he worked too close to the subject; and we see this difficulty disappear as the camera is moved farther away. We also see the hat assume its true proportions in the same manner; and the neck of the subject grows thicker in proportion, too, as we work at a greater distance. Practically the same perspective is rendered at the same distance by all three lenses. I want to call your attention to the fact that the 3-inch lens gives a much greater depth of focus than either of the others. But I'm sure I needn't elaborate on this. The pictures speak for themselves.

Nearly twelve diameters was the degree of enlargement necessary in the case of the negative made at 12 feet with the 3-inch lens to bring the figure up to the same size as the rest. You will get some idea of the great magnification this is when you consider that a 4 x 5 inch picture enlarged twelve diameters would become 4 x 5 feet! Twelve diameters means a surface enlargement of 144 times. It was a very severe test of the defining power of the little 3-inch anastigmat, and wonderful as it may seem, there is still sufficient detail for portrait work in the 12-times enlargement. But another difficulty becomes manifest. With such great magnification the grain of the film begins to show disagreeably, giving the picture a mealy appearance. With a fairly fine-grain film, an enlargement of six diameters shows no grain to speak of; but beyond that, and, especially if very fast plates, and therefore of coarse-grained film, are employed, there is likelihood that the grain will show unpleasantly. I should conclude from these tests that it is entirely practical and desirable to use for portrait work a lens not exceeding five inches in focal length. Of the three lenses mentioned, I should choose the 4¾-inch lens for portraiture. The 3-inch lens might be preferable in confined situations.

The process of photographic enlargement is nothing new, but the apparatus with which enlarging is accomplished has in the past few years been so improved and simplified that the production of enlarged photographs is much more easy and certain and less irksome than it used to be. It is well that this is so, for, as I said before, enlargement is a necessary part of the process of working with miniature cameras; and we are here considering the feasibility of doing all sorts of photographic work with miniature cameras—or at least with lenses of such short focal length that all our finished prints will necessarily be enlargements, not contact prints. It is the proposition that did not occur to that particular photographer who bought the 20-inch lens—putting out enlargements at so much a dozen, the way most photographers do now with contact prints.

Brownie enlarging cameras are the simplest form of enlarging apparatus that could well be devised. They are nothing but a collapsible box—one end adapted to receive the negative and the other end the sensitized paper on which the enlarged print is to be made. Fixed at the proper place between is the lens. I am not recommending this apparatus for professional use, although I know one professional who, forsaking all his expensive and cumbersome enlarging outfit, does use the Brownie box for the

occasional enlarging that his trade demands—it is handier and just as efficient. The principal objection to the more general and serious use of some such device as the Brownie box is that it uses daylight, and daylight is unsteady and uncertain. Until recently, all my own enlarging has been done with daylight. I have not used a Brownie enlarging box, but the principle of my outfit is the same. The essential difference is that instead of the meniscus lens at a fixed point, I had a 7-inch Goerz Dagor, which could be used with a large aperture and which could be moved back and forth, as well as the end holding the paper, to vary the degree of enlargement. This arrangement works very well on a bright day when there are few clouds and the light is fairly constant. It served my purpose admirably, but if I were making a business of it and had perhaps several dozen prints to get out at once, rain or shine, this outfit would not be practical.

The electric arc lamp, as it has been improved and simplified and applied to the process of enlarging, is the remedy for our difficulty. In the Viopticon, which is a wonderful little enlarging and projecting apparatus, made by the Victor Animatograph Co., the light from the electric arc is so concentrated that for enlarging it gives an illuminant that is several times brighter than the unobstructed light from the clear summer sky. Not only that, but the light is steady and dependable—which daylight is not.

Bromide paper has heretofore been almost universally the medium employed for enlarging, in preference to gaslight paper, because of its speed. Bromide paper is approximately twelve times as fast as the faster kinds of gaslight paper. Twelve times is considerable. With a daylight enlarging apparatus, that means on a cloudy day when it might take half an hour to get a print on gaslight paper, bromide would do it in less than three minutes. When would you be finished with an order for two dozen enlargements if each one needed a half hour exposure? But with a modern electric arc-light enlarging apparatus the comparative slowness of gaslight paper need not be an obstacle to its use for enlarging. When you compare the results of enlarging on bromide and gaslight papers, there is no doubt whatever that gaslight paper will be your choice. A bromide enlargement is gray, flat, muddy—the blacks are not black, the whites are not white—it has about the quality of a newspaper half-tone. But an enlargement from the same negative on gaslight paper will give all the qualities of brilliancy, depth and sparkle that are possessed by the contact print.

Now then, the efficient miniature camera gives you a negative that will yield enlargements up to six diameters or more with satisfactory detail. Gaslight paper affords a medium on which enlargements may be produced possessing all the good qualities of contact prints.

I said I would give my idea of what an ideal miniature camera should be. Here goes! The lens should be as good an anastigmat as your purse will stand. F. 6.8 is fast enough for all but the most extreme situations, and I think it is generally acknowledged that when a lens is made to use at a larger relative opening than that, something has to be sacrificed in the way of definition and covering power—both of which qualities are important. The camera should be so made than when the front is extended it is perfectly rigid and also perfectly parallel with the surface of the film. This is very important and should be tested, for I have seen high-price cameras that did not come up to this requirement. Focusing adjustment should enable the camera to be used as near as three or four feet without the necessity of using a supplementary lens, which is a nuisance. You properly infer from the foregoing that I do not favor the "fixed focus" camera. There should be a rising front, which will surely be needed if the outfit is to be used for architectural work. When the camera is closed the lens should be covered without the necessity of putting it in a case. Choice between a plate camera and a film camera might be considered here. I can only repeat that if I had to choose

one camera for serious work it would be a plate camera.

Frankly, the ideal camera does not exist, and probably never will. It isn't likely that any one camera, either small or large, could be devised that would be perfectly adapted to all sorts of work. But I will tell you what kind of camera and lens equipment I have. It is pretty nearly "ideal" I think. My truly miniature camera is an Ica roll film camera, taking a picture 2¼ inches square. It has a "Maximar" anastigmat lens of 3 inches focus, and a mighty good little lens its work proves it to be. I carry this camera with me all the time, and it is capable of excellent work. It can be carried and used where a larger instrument could not, or on unforeseen occasions when the larger camera would be left at home. When I set out "with malice aforethought" to take pictures, particularly of architectural subjects, or at home for portraits, I use a 3¼ x 4¼ plate camera equipped with two lenses that can be used interchangeably. One lens is a 4¾-inch Series II Collinear working at F. 5.4, which is used for portraits and for "long-focus" work. The other lens is a 3-inch Goerz Dagor, F. 6.8, which is used for everything else.

This idea of putting a 3-inch lens on a 3¼ x 4¼ camera is my own. The way I got the idea was from my use of a 7-inch Dagor on three different cameras—a 4 x 5, a 5 x 7, and an 8 x 10. The 7-inch Dagor embraced a rather narrow angle on the 4 x 5, a medium angle on the 5 x 7, and a wide angle on the 8 x 10. Now in the same way the 3-inch lens works at a narrow, medium or wide angle on the 3¼ x 4¼ plate, depending on whether a small or a large part of the negative is utilized in enlarging. Every negative made embraces a wide angle—and there is the beauty of the plan—it is only necessary to point the camera in somewhere near the right direction, see that it is level, and shoot away! You are sure to get almost everything in front of the camera. Then you enlarge from whatever part of the negative contains the desired picture. For straight wide-angle work, the 3-inch Dagor on the 3¼ x 4¼ plate is an admirable combination. The fact that the lens will cover this size plate well at F. 16 goes to show that the reputation of the Goerz Dagor for wide-angle use is well deserved.

There are many other things I might write on this subject of "Miniature Cameras and the Short-Focus Anastigmat," but the article is already too long. I hope the illustrations and accompanying notes may serve to amplify the text. Some of the enlargements which illustrate the article were made by daylight—some with the Viopticon. They are all made on various grades of Cyko.

Economy in first cost of equipment and continual economy in the cost of plates, paper, developer, etc., is an advantage that I mention incidentally—not because it is not important, but because I would not emphasize that above the more important advantages of convenience and excellence of results.

It is only a question of quality of results that makes the serious photographer dubious of the little camera. My advice would be for every photographer now working exclusively with large cameras, to get one of the miniature instruments, stick it into a hip pocket and take it along with the big box. Then try the little machine side by side with the big one—on the same subjects. Mark my words—you will often find yourself leaving the big one at home, and trusting entirely to the little camera.

I don't suppose photographers who read this will immediately throw away all their lenses of over 5 inches focal length. But be assured, this movement toward working with short-focus lenses and making the finished prints by enlargement is significant.

Every man wants to have his efforts appreciated, so begin by appreciating them yourself.

A spirit of joy and contentment will keep you young and your work attractive.

THE CALCULATION OF EXPOSURE

BY C. E. KENNETH MEES, D. Sc.

If a plate or film be exposed to a steady light for a series of different times so that one part is exposed for one second, the next for two seconds, the next for four, eight, sixteen, thirty-two and so on, and if then we develop and fix the film and after it is dry find out how much silver per square inch we have produced in each exposed part we shall find that each time the exposure was doubled we *added* almost the same amount of silver.

It is rather hard to measure the amount of silver by actual analysis, but it can easily be done optically by measuring the blackness of the deposit, and this measurement of the blackness which is proportional to the amount of silver per square inch is called the "density." A density of unity is taken as the standard and represents the blackness of a deposit which lets through only one-tenth of the light, it corresponds to a very small amount of silver, only about 1-100 of a grain per square inch.

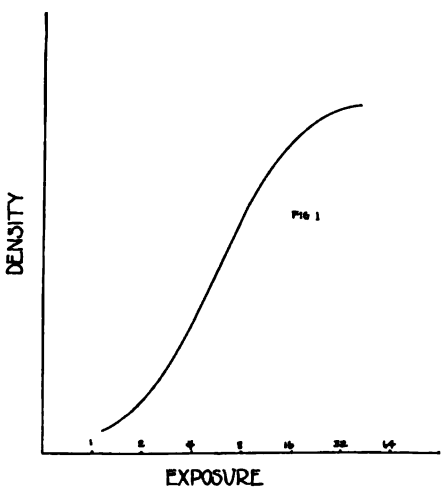
The relation between the density and the exposure of the plate can be easily represented as a curve. (See Fig. 1).

The steepness of this curve varies according to the time of development, the curve getting steeper and steeper as the film is developed longer and finally attaining to a maximum steepness beyond which no length of development can push it. (See Fig. 2).

The steepness of the curve thus represents the *contrast* of the negative.

If we look again at the curve represented in Fig. 1, we shall see that for a portion of the curve the density is increased proportionally as the exposure is doubled.

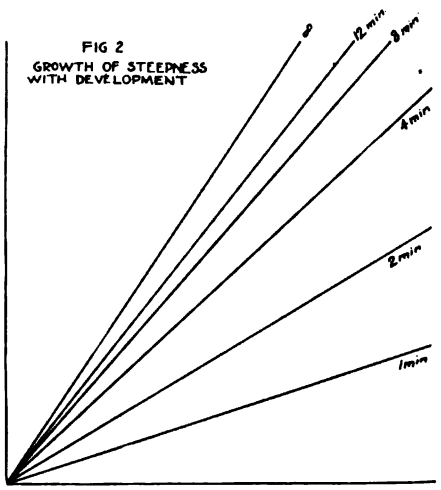
This condition is that which produces a correct rendering of the original in the print and for that reason it is known as the region of correct exposure. But at the beginning and the end of the curve the curve is not straight, at the begining the density increases more rapidly, this is known as the region of under exposure, and at the top of the curve the density falls off and finally fails to increase at all when the exposure is increased, this is the region of over-exposure. We may note that in the example taken the under-exposure region persists while the exposure increases from unity to three units, then we have correct exposure until the exposure becomes about thirty-six units, and then the over-exposure region goes on for a long time, differences failing to show only after about five hundred units of exposure.



Now the unit of light intensity is that

given by a candle at a distance of one foot, so that the unit of exposure will be an exposure of the plate for one second to a candle at one foot, or one candle-foot-second.

For a very rapid film the point marked 1 on our curve represents an exposure of about one-hundredth of a candle-foot-second so that the period of correct exposure will cover exposures from 3-100ths to 4-10ths of a candle-foot-second.



If then we are to calculate the exposure which we must give, the first question which we must ask is, "what is the range of light intensities with which it is necessary to deal, in ordinary photography." The plate can render correctly a range of 1 to 12, or if we include the region of under-exposure (as we always do in practice), and a certain reasonable portion of the period of over-exposure, we may say 1 to 60.

It is generally believed by photographers that the range of light intensities occurring in natural objects is very much greater than the figures given above, and that in an ordinary landscape, for instance, the light intensities will vary from 1 to many thousands. This idea is quite incorrect; however, in a bright landscape with heavy shadows, the light from the sky itself is only about thirty times as much as the light reflected from the deepest shadows, while in the case of open landscapes in which there are no close objects in the foreground the range of intensities will be much less than this, being only one to five, or one to six. Now a film which appears to be correctly exposed will be one which is exposed so that the deepest shadows in the subject will be rendered by a just visible trace of deposit. On our curve this would correspond to an exposure of about one, so that for a correctly exposed plate a landscape will be represented by a range of exposure from 1-100 candle-foot-seconds to 3-10 candle-foot-seconds. If we measure the brightness of such a landscape with a photometer, we shall find that the sky may actually have a brightness of about 3000 foot candles, the deepest shadows in dark tree trunks in the foreground having an intrinsic brightness of about 100 foot candles. Now this is the brightness in the subject, but in order to calculate the exposure we must consider the brightness of the image in the camera. The image is formed by means of a lens and its brightness will depend upon the aperture ratio or "stop value" on the lens.

It can be shown by calculation that, making allowance for reflection and absorption, and disregarding, as has been done in all these calculations, the ultra-violet light which is strongly absorbed by glass, the brightness of the image with a stop of F. 8 is very nearly 1-100th of the brightness of the object. So that the range of intensities in the camera image of our typical sunlit landscape, is from 1 to 30 foot candles, using F. 8, and if we give an exposure of 100th of a second we shall get a range of exposures from 1-100 candle-foot-seconds to 3-10 candle-foot-seconds. This exposure will apply only to a very rapid film or plate, one of the type termed "ultra rapid," and assigned a speed of about 500, so that if we take the speed of the plate or film into account we can see that for a film of speed 500 at F. 8 we shall require an exposure of 1-100th of a second if the light reflected from the darkest portion is about 100 foot candles. If the light reflected from the darkest

STOP F-16. EXP. $\frac{1}{10}$ SEC. PLATE SEED 350.

STOP F-16. EXP. $\frac{1}{10}$ SEC. PLATE SEED 350.

shadow of the object were one foot-candle we should require an exposure of 1 second on a film of speed 500, or 500 seconds with a film of speed one. Or generally, if L is the light intensity from the darkest part of the subject, P. is the speed of the film or plate and E is the exposure at F. 8, then

$$E = \frac{500}{L \times P}$$

E being exposure in seconds, L in foot-candles and P. in the usual speed units.

It will be seen that this method of calculating exposures assumes that the exposure is made for the shadows, and in practical photography this is almost always true, one exposes to get shadow detail and trusts to the latitude of the emulsion being sufficient to render the whole scale of gradation of the subject.

If instead of a landscape with foreground we photograph a quite open landscape with sea or open country in the distance, then the darkest parts of the picture will reflect perhaps 1-5 of the sky light or about 500 foot candles. Using a film of speed 250 we should have to give an exposure of only 1-250th second at F. 8 or about 1-60th of a second at F. 16.

Using this line of reasoning let us consider what the shortest exposures practicable for figures in rapid motion are likely to be. The range of contrast in an athlete jumping, for instance, will be smaller than in our typical landscape and probably 1 to 10 would be a fair approximation, and if the scene is in sunlight the shadow detail may be represented by 250 foot candles. Using the most rapid lenses available for such work we may reckon on having 3 times as much light as a lens at F. 8 will give and we can use a film of speed 500, the exposure required will therefore be 500/250 x 3 x 500 or 1/750 of a second. Even focal plane shutters do not give unity efficiency when working at such speeds and with such a shutter we see that for full exposure about 1-500 of a second is necessary even with the very favorable conditions we have pre-supposed. We see, therefore, that the famous 1-1000 of a second so often taken as the standard of high speed work always implies some degree of under-exposure, and this fact illustrates the advantage well known in practice of taking very rapidly moving objects as silhouettes against the sky.

When photographing in the streets of cities, a considerably greater exposure is permissible than in landscape work, although it is not really necessary, because there are always deep shadows outside the main range of contrast, in which an increase of exposure will give detail at the expense of the high lights, and an increase of exposure, therefore, means shifting of the centre of the scale of gradation, from the high lights to the shadows. In practice topographical views are usually made at the shorter

STOP F-16. EXP. $\frac{1}{17}$ SEC. PLATE SEED 350.

exposures, while the pictorial photographer prefers the longer exposures which concentrate interest on the lower-toned portions of the picture.

When using color filters with panchromatic plates these factors must be allowed for in considering exposure; the speed of the fast panchromatic plate may be taken as 250, while the use of the K.2 filter requires an increase of three times in the exposure, so that for our typical landscape when using a panchromatic plate and K.2 filter at F.8 we have

$$E = \frac{500 \times 3}{250 \times 100}$$

or about 1-16 of a second. In three-color work the red filter will increase exposure twelve times, while on the other hand a lense three times as fast

will be used and we shall have

$$E = \frac{500 \times 12}{250 \times 100 \times 3} \text{ or } 1/12 \text{ of a second.}$$

If we consider the photography of a theatre stage at night with panchromatic plates and the most rapid lens that could be used, giving. say, four times as much light as one working at F. 8, we might expect the minimum illumination on the stage to be 5 foot candles and we have

$$E = \frac{500}{250 \times 4 \times 5} \text{ or } 1/10 \text{ of a second.}$$

which shows that photography of the stage during a well lighted scene should be just possible, as it has proven to be in practice. In the same way in night photography, photographs of well lighted streets have been taken with large aperture lenses in ¼ of a second, minimum lighting probably being about ¼ to ½ foot candle and the picture being somewhat under-exposed.

Positive Printing.

When printing positives either on paper or on plates for lantern slides, working conditions are somewhat different, no camera being used and the object being a negative instead of the original subject. The range of contrast in negatives is frequently much greater than in natural objects, but the printing paper cannot render it, and the exposure is governed by the same conditions as those which apply in negative making. Such an exposure must be given that the greatest opacity which it is desired to print through at all just produces a visible deposit.

Usually the highest light of all should be printed free from any deposit and the next tone to this should be taken as the governing factor.

Turning to the curve shown in Fig. 1, and considering a bromide paper, this will have a speed of about 5 on the speed scale, so that it is 100 times slower than the film which we considered first and the point marked 1 on the exposure axis corresponds to an exposure of a candle-foot-second. Now the high light which we shall want to print through in an average negative lets through only about 1-20 of the light, so that we shall have to give such a bromide paper an exposure of 20 candle-foot-seconds behind such a negative, and for a paper or plate of any speed we may write

$$E = \frac{5 \times O}{P}$$

where P is the speed of the paper and O is the opacity of the high light in the negative which it is desired to print through. If the high light in a negative lets through 1-20th of the light then the opacity of that negative is said to be 20. If it lets through 1-100 it is 100 and so on.

This method of calculating is extremely convenient in practical photography, enabling one to print positives on any photographic material and from any negative without any record or preliminary trials, provided that the speed of the material is known, and that one has two or three electric lamps of known candle power and a very simple density meter for measuring the opacity of the negatives.

Think less of getting, and more of giving.

Think less of beaux, and more of business.

Think less of weather, more of *your* atmosphere.

Think less of flaws, more of fine points.

Think not of sad things, but *smile*.

And lend a shoulder to the wheel.

Before you try large things practice on small things.

Be courageous but do not be too daring, it is wise to feel your way.

FROM MINIATURE NEGATIVE MADE WITH 3 INCH LENS

CONTACT PRINT FROM 5 X 7 MADE WITH 7 INCH LENS

SEE "MINIATURE CAMERAS AND THE SHORT-FOCUS ANASTIGMAT"

SOFT-FOCUS LENSES FOR PORTRAITURE

BY ARTHUR HAMMOND

As in all other lines of endeavor, the art of portraiture by photography has made great strides during the last few years. In the old days skilful technique and some experience were the prime essentials of success, but now a photographer needs more than these if he wants to do really high class work. Portraiture of the best kind, now, is a fine art, and a photographer is not fully equipped for his work unless he has the "seeing eye" and the ability to compose and arrange the material of his picture in a pleasing and artistic manner. The artistic instinct must be cultivated and trained and unless the photographer is naturally gifted with artistic perceptions, modern portraiture of the best kind will be quite beyond him. Mere technical skill is not sufficient to produce a work of art, and many of the productions of the really great photographers of modern times can well so be designated. Character, individuality and sympathetic treatment are essential to good work and the photographer can learn much in regard to these essentials from the methods of the painter and draughtsman. A painter tries to emphasize character and individuality by the elimination of the unessential; only what is absolutely necessary does he include in his picture. He selects from what is before him just as much as he considers necessary to give expression to his ideas, he can eliminate and modify and, by these means, can retain and emphasize character and likeness. But the photographer has to go to work in quite another manner; he has to take all that is there and then, by manipulating the negative and by control in printing, suppress and modify as far as he is able. The retouching pencil and etching knife will help to eliminate and modify to a great extent and careful printing in a sympathetic medium will help to suppress insistent and unnecessary detail. Such mechanical aids are legitimate enough, to be sure, and long continued use has given them a firm place in the portrait photographer's equipment; they serve their purpose well when used intelligently and in skilful hands, but it is very easy to destroy likeness and character by employing a retoucher who does not think.

Retouching done very carefully by an artist, and by one who has studied the sitter, differs very much from the mechanical stippling of the uninspired though possibly dexterous retoucher who has to finish a certain number of negatives in order to put in a good day's work.

The elimination of aggressive detail and the softening of skin texture can more subtlely and more readily be effected by the use of a lens which, by reason of its special construction, cannot give the hard and biting definition of a fully corrected anastigmat. The slight amount of spherical aberration left in such a lens gives a vibrant quality of image and a more pleasing blending of tones. There can be as much detail as is desired but such detail will not be too insistent and will take its proper place in the picture scheme.

We do not want to be able to count the eyelashes on our sitters face, nor do we want every line and wrinkle, every trifling imperfection of the skin to be so rendered that one loses the proper relation of these details to the rest of the picture.

Let us take another lesson from the painter: A clever landscape painter will represent a tree by painting the masses broadly, by reproducing the light and shade on the tree as a whole. He does not paint every leaf and every twig, but tries to suggest these details by his treatment of the whole. By the use of a soft-focus lens such treatment can be employed in portraiture.

Self-portrait from reflection in mirror. Verito 14½ inch lens at about F-7. Retouched slightly.

There are several lenses of the semi-achromatic or soft-focus type now on the market and they are being used very extensively by many of the most prominent professional photographers. As usual, it is to the persistent enterprise of the artistic amateur that we owe these lenses.

Way back in 1896 the problem of making a lens that would give an image of artistic quality was put up to Mr. Henry S. Smith (of Pinkham & Smith Co. of Boston), by F. Holland Day. Mr. Holland Day knew what he wanted and, on discussing the matter with Mr. Smith, they came to the conclusion that it was a question of controlling rather than eliminating the spherical aberration. Mr. Smith made a lens which was fully corrected for chromatic aberration but partially uncorrected for spherical aberration, and, on experimenting with this, it was found to give something like the desired effect. This first experiment was followed by others and the pioneers were busy for several months working out the problem of semi-achromatic quality, Mr. Smith and Mr. Walter Wolfe being the optical experts and Mr. Holland Day and Mr. Alvin Langdon Coburn the artistic advisers. Several lenses were made and discarded while some were found to be quite satisfactory, and soon Mr. Smith was able to work out the formula. He regarded this, however, merely as a fad and did not think it likely that such lenses would ever be a commercial proposition, he did not advertise the lenses but made them to order when requested. Since then, however, he has made and sold several thousand such lenses, showing that there is a very considerable demand for lenses of this type. Other lens makers have since attacked this problem and there are now many such lenses to select from. The Spencer "Port-Land" lens, a single lens with an aperture of F. 4.5, has been obtainable for over three years and the "Verito" F. 4, made by The Wollensak Optical Company of Rochester, N. Y., was the first to be put on the market in the form of a doublet. This lens has been before the public for over two years and is used very extensively by professionals for portraiture both in the home and in the studio as well as by many leading amateurs, both in this country and abroad.

The Dallmeyer- Bergheim lens and the portrait lenses made by Ross, Dallmeyer and Taylor, Taylor & Hobson (the Cooke lens), which have a means of obtaining diffusion by the separation of the crown and flint are probably quite well known to my readers.

Such lenses appeal very strongly to the artist in photography for they give a picture that retains all the character and likeness, the modeling and texture,

REAR CONBINATION ONLY OF VERITO LENS. SHADOWS UNDER EYES SLIGHTLY RETOUCHED.

VERITO LENS AT F-6.14½ INCH FOCAL LENGTH. NOT RETOUCHED.

without the mechanical hardness and irritating detail of the anastigmat. Moreover, such lenses possess a greater apparent depth of focus than a fully corrected lens at a similar aperture, for there is no abrupt change from sharpness to fuzzyness but a gradual blending of definition. When using a fully corrected portrait lens at a wide aperture it is often difficult to avoid having a portion of the sitter's clothing very sharply defined, showing every thread in the cloth, and another part so much out of focus that the texture is lost. With a soft-focus lens this seldom occurs, the blending is more even and gradual.

The demand for such pictures is becoming almost universal in the better class studios and it is up to the photographer to educate the public and raise the standard of his art by making pictures that have artistic merit as well as a commercial value. In my own studio I have sold many such pictures by the simple method of submitting one or two proofs made with a semi-achromat as well as some made with a regular portrait lens. The pictures sold themselves. I did not try and explain to the sitters what the difference was or try to make them have what they did not ask for, I just made a few plates with a sharp lens and then a few with the "semi" and in nearly every instance the soft-focus proofs were the ones selected.

Negatives made with such a lens need, as a rule, very little retouching, provided, of course, that the lighting is satisfactory and the exposure sufficient. The lens will not correct faulty operating but will give an added charm to a well lighted and technically perfect portrait. For home-portraiture such lenses are particularly suitable. It is often necessary to make pictures under difficult lighting conditions and the lack of hard edges will help to blend the lights and shadows and prevent harshness. The large available aperture of such lenses makes them particularly suitable for rapid work in the studio. The Smith Semi-Achromatic Doublet works at F. 4, the Verito at F. 4 and the Spencer Port-Land at F. 4.5. At full aperture the image is very soft and diffused but not by any means too much so under some

SMITH SEMI-ACHROMATIC SINGLE LENS, 16 INCHES FOCAL LENGTH. STOP ABOUT F-7.
NOT RETOUCHED.

lighting conditions. With a soft, flat lighting the full opening may well be used to great advantage but with a more contrasty lighting, possibly a little stopping down may be necessary. The operator can control the quality of the image by means of the diaphragm and in focussing, too, there is much scope for individual control. There is not, as in other lenses, just one place that is right and only one place where the image is sharp; there is a belt of focus rather than just one plane and many different effects can be obtained by slight variations in focusing. Each worker will have to accustom himself to the lens and find out its possibilities for it will be found, after a little experience, that such a lens will prove to be very adaptable to the artist's methods and will be capable of giving considerable variety in the results. Therein, to my mind, lies one of the greatest attractions of the soft-focus lens; the possibilities in the way of personal control are truly remarkable. Given the same lens and the same subject, it is quite likely that the results in different hands would be quite different in quality, no two artists would be likely to treat the subject exactly alike but each would put into the picture some of his own individuality and personality.

The illustrations reproduced in this issue as examples of soft-focus lens work show some variety in quality to different methods of treatment, some of the pictures are practically sharp, others show the softness of outline and the "lost edge" that many painters try to get into their pictures and almost any degree of diffusion is possible between these two extremes according to the manner in which the lens is used.

Some allowance must be made for loss of quality in reproducing such pictures, they are a terrible trial to the block maker, and any of my readers who are interested in work of this kind should take the earliest possible opportunity of inspecting some original prints or should make some themselves and then they will more easily be able to judge and admire the breadth and softness and the wonderfully pleasing quality that such lenses are capable of giving.

To create anything in reality is to put life into it. A poet, or creator, is therefore a person who puts things together, not as a watchmaker steel, or a shoemaker leather, but who puts life into them.

His work is essentially this: it is the gathering and arranging of material by imagination, so as to have in it at last the harmony or helpfulness of life, and the passion or emotion of life. Mere fitting and adjustment of material is nothing; that it watchmaking. But helpful and passionate harmony, essentially choral harmony, so called from the Greek word "rejoicing," is the harmony of Appollo and the Muses; the word Muse and Mother being derived from the same root, meaning "passionate seeking,' or love, of which the issue is passionate finding, or sacred invention.

PHYSICAL beauty *is a* noble thing when it is seen in perfectness; but the manner in which the moderns pursue their ideal prevents their ever really seeing what they are always seeking, for, requiring that all forms should be regular and faultless, they permit, or even compel, their painters and sculptors to work chiefly by rule, altering their models to fit their preconceived notions of what is right. When such artists look at a face, they do not give it the attention necessary to discern what beauty is already in its peculiar features; but only to see how best it may be altered into something for which they have themselves laid down the laws. Nature never unveils her beauty to such a gaze. She keeps whatever she has done best close sealed, until it is regarded with reverence. To the painter who honors her, she will open a revelation in the face of a street mendicant; but in the work of the painter who alters her, she will make Portia become ignoble, and Perdita graceless.

—*Ruskin.*

INSTANTANEOUS PHOTOGRAPHY IN COLORS

BY S. H. HORGAN

THE girl who smiles at you from the frontispiece of this anniversary number of WILSON'S appears conscious of the fact that her portrait marks the highest achievement thus far reached in combining photography and the printing press. How appropriate, therefore, it is that this portrait should be placed on record in the golden jubilee number of WILSON'S so that it may be compared later with what future anniversary numbers may bring forth.

We have all of us wished for some method that would secure permanently, in numerous duplicates, the beautiful colored image seen on the ground glass. The Polychromide Company of 420 Fifth Ave., New York, have for the past nine months been producing photographic prints on paper in natural colors and most exquisite portraits have been obtained by their process.

How do they do it? is the question that naturally follows and here in brief is a description of their method: In the first place the Polychromide camera is so constructed that three color-separation negatives are made simultaneously. One plate holder carries a plate at the back of the camera as usual. Another plate holder carries a plate and a film—face to face—at the side of the camera. In the camera box is an optically flat red glass set at an angle of 45 degrees with the axis of the lens. This red glass is a color filter for the light which reaches the plate exposed at the back of the camera, and it is a mirror which reflects light through the sensitized film to the sensitive plate, in contact with it, at the side of the camera. Hence the amount of yellow, red and blue in any object placed before the camera is recorded on three sensitized surfaces at a single exposure. And a special flashlight powder and apparatus permits this exposure to be made instantaneously, as the portrait of the smiling girl shown in the frontispiece was made.

These three negatives are developed on a time system, preferably in a tank, after which they are fixed, washed and dried as usual. Making the color prints on paper is the most ingenious part of the process. The Polychromide Company supply three papers for this. The paper used for the red is handled just like carbon tissue. After printing on it and development in hot water it shows the proper amount of red in the picture. Sensitized gelatino-silver developing paper is used for the yellow and blue prints. The prints on these two papers are developed with metol-hydroquinone and fixed and washed like bromide prints.

These two black and white prints are now transformed into color prints by chemicals and instructions which the Polychromide Company furnish. By placing one print into a bath it turns yellow and the other print turns blue, when bathed in its proper bath, the whole being a purely chemical process, no dyes or pigments being employed. The prints are now superimposed upon each other in the following manner: The yellow print is squeegeed, in register, upon the red print and upon being stripped off carries the red print with it. This combined orange-red print is squeegeed to the blue print. The paper support is then pulled away from the blue print and the result is a beautiful photograph with all the colors of the original.

The special solution furnished by the company, for use in squeegeeing these prints together, acts on the gelatine in such a manner as to make the finished print a homogeneous mass obviating any possibility of the colored films separating afterwards. The results obtained are remarkable. Besides the color ren-

dering and fine gradations in the middle tones, the preservation of the neutral grays is delightful.

Every progressive photographer should see or communicate with the Polychromide Company at once and learn their terms for the use of their camera and methods. The Van Dyck Gravure Co. of New York, who made the photogravure frontispiece presented here were the first to secure a Polychromide outfit. The Luther Burbank Press of Santa Rosa, Cal., are using this method in reproducing flowering plants. It will be used in the Christmas supplement of a New York newspaper. It is to be hoped the company will manufacture a small camera that can be used by amateurs, who are pioneers in new methods, and color photography will become one of the most notable achievements of the 20th Century.

NOTES ON SNOW PHOTOGRAPHY

THE really successful photographers of snow might almost be counted on the fingers of one hand. There are several reasons for the dismal failures that are so common, and perhaps the most important one is the tendency to take snow pictures on dull days. Such pictures usually suggest snow after a few days of very gradual thaw, when the first whiteness of surface is spoilt by a tinge of dirt and by the innumberable little marks with which its surface is pitted.

The plate should be backed. The minutest delicacies of the highest lights will be lost in the development of an unbacked plate. And the plates should be fresh from the makers. Plates—especially very rapid ones—sometimes deteriorate with age, and though this is not sufficient to be noticed with any normal subject it may be the cause of the unexplained grayness of some snow scenes. Another fault of snow pictures is over-exposure. The rule as to exposing for the shadows does not hold good here, and especially if the sun is shining. The making of a successful snow picture is not, usually, in the delicacy and transparency in the shadows so much as in the delicate gradation in the lights. A not too long exposure will, too, better give the dark gray sky which is so characteristic with snow.

The snow photographer must be an enthusiast. The snow-covered ground is often with us for several months of the year, and offers a sufficiency of opportunity. But the many varieties of snow-laden trees, frosted bushes, etc., may occur but once or twice in the season. And when they do occur in perfection they are more likely to drive the poor photographer to despair than to encourage him to expose. When a heavy thaw, snow loads every limb, bend the the younger saplings like hoops, and snapping off dead branches; and when the sky afterward clears and the sun glints through the branches, then is the time for success—or great failure. When the snow melts under the sun and freezes again into crystal sheaths as it trickles down the trunks, when every twig is ice coated and flashing under the sun and against the blue sky, then is the time for despair.

The photographer should not have to seek for his tree scenes—at their best they are too evanescent to allow of much hunting. The ground should be well known beforehand and the photographer, when snow has been falling during the night, should be up and out betimes. Before he sets out let him screw his lens into his camera—if carried in his pocket he will pass tedious moments before it steams and clears again.

The developer for these views must not be too cold, or the prolonged development may lead to fog, and this must be avoided at all risks. A "perfect" negative is an essential to the best results, and this can only be obtained by corrected procedure at every stage. It is through some error at one or other parts of the work that the average snow picture attains its commonplaceness—as we see it in the average amateur production.

EDITOR'S TABLE

OUR JUBILEE

"PHOTOGRAPHY and its advancement will be our chief aim."

Thus wrote the first editor and founder, Edward L. Wilson, in the first number of this Magazine fifty years ago.

This Anniversary is one, it would seem, not only of fulfilment on past accomplishments, but an occasion to celebrate, by exchange of greetings and congratulations, expressions of confidence for the future.

WILSON'S has for half a century steadily and persistently endeavored to improve and advance the cause of photography. In its long and glorious history the Magazine has never been more alive than now to promote and uplift the best interests of the profession. Firmly believing that the day has arrived when the worker in photography needs whatever may save his time and assist his efforts, the editoral and business department of WILSON'S, with a vigorous forward policy, have entered upon a new era of broader activity and usefulness. Photography in America must go forward—must be kept in the front. Our greatest desire now, as in 1864, is to push the good work on; to be more useful to the world, and especially to the readers of this Magazine. For this there must needs be co-operation; readers and editor must get together. The reader enjoys his Magazine throughout the year, as many expressions of opinion assure us; the editor enjoys his work, in so far as he feels that it helps those for whom it is intended. WILSON'S will thus be enabled to continue to serve a useful purpose for the earnest worker, and for the interested student. It is for this purpose only we shall labor. Solid, worth-while articles on subjects of real value and importance will maintain the high standard of usefulness and excellence, and many practical papers will appear by men distinguished and well equipped in their own special line of work. Brevity and simplicity will be followed in presentation of subjects except in cases where fuller treatment is absolutely necessary, and where details only will serve. Our plans for the coming year are already fairly complete. Difficult though the work may be, the Magazine is to be improved and made better in every department. New fea-

tures, new writers, new illustrators and a broader policy make up the outlines of the general plan. Professional work, practical instructions, the business department and manipulation are to be given special attention to by men who will offer profitable ideas. The best work of the year, as it appears, will be reproduced among our illustrations. As in the past, so in 1914, whatever is good and desirable in photography will be found month by month in the pages of WILSON'S. We invite the renewal of your support in this work.

May the New Year be happy and prosperous to one and all.

Our interests are mutual and we should work together. Let us take time to drop self-interest occasionally, however, and shape a twig or two for the crown of Art. In a word, let the New Year be so appropriated as to secure greater honor and fame for the uplift of photography.

TRANSLATIONS AND ABSTRACTS

BY E. J. WALL, F.R.P.S.

THE SEPARATION OF LIGHT AND HEAT

Dussaud states that the glass of nearly all optical projecting systems absorbs some of the heat rays and it takes some time for those not absorbed to pass through. He proposes to lessen the heat, that would in the ordinary course reach the slide, by arranging a series of concave mirrors with a fixed arc lamp at the focus, in front of a series of condensers and projecting lenses. The whole optical system swinging out of the path of the rays so that the heat cannot be communicated to the picture, as the heat absorbed is given off as the system swings round. It is stated to be suitable for any sort of projection.—*Bull. Soc. Franc.*, 1913, p. 275.

It is not clear how one could project an ordinary slide by this method, say for a minute, whilst the lecturer wanted to explain anything. The cost would be prohibitive also. A cell filled with a heat absorbent, such as ferrous or cupric sulphate should be equally as effective and far cheaper.

ABRASION MARKS

C. B. Barnes recommends that glossy prints that show these marks, should be taken direct from the hypo, placed face up on a sheet of glass and gently rubbed with a soft rag, which readily removes them. As a preventive he recommends the addition of 0.02 per cent. of potassium cyanide to the developer.—*B. J.*, 1913, p. 783

TRANSFERS FROM BROMOILS

Mayer, at a recent meeting of the Vienna photographic club, gave the following instructions for obtaining transferred bromoil prints. The paper, to which the picture is to be transferred, should be without any surface coating, such as gelatine; drawing or any other good paper may be used and as the image is formed in a greasy ink and not in silver, absolute purity of the paper stock is not of such great moment. Small prints may be transferred to larger sheets so as to give a wide margin. The bromide print should be on a paper without a pronounced grain and the gelatine film should be slightly hardened so that it shall not be damaged in the transfer. To obtain clean sharp edges the print should be trimmed down to the required size, leaving a small tag of paper at one corner, which is useful to hang the print up by. Inking-up is effected in the usual way and the transfer may be effected at once, but it is better to leave the print 24 hours. The paper to which the transfer is to be made should be limp, and, if necessary, left over night in a damp place or steamed by means of a kettle. If the bromoil print is used as soon as it is inked, it will be damp enough, but if it has been dried it must be immersed in water or steamed. Two stout cards, larger than the paper, should be fastened together on the shorter side, so as to form a sort of book. The print should be placed face up on the lower card, pencil marks being made on the card to ensure its being correctly placed, the other card lowered into place and the whole passed through a burnisher, when the ink will be found to have left the bromoil and be transferred to the paper. If more transfers are required the print must be soaked in water and again inked up. Color as well as monochrome effects may be obtained.—*Wien. Mitt.*, 1913, p. 577.

The method adopted by a well known English exponent of this process, is to use sheet zinc, about 1/16 inch thick, under the card, place the paper down on the latter, then the print and then a piece of printers blanket and

then another smooth sheet of card, passing the whole through the domestic clothes wringer, with rubber rollers. The print is passed through once and then back again, the card and zinc being large enough to allow of this being done without taking the packet from the press.

Platinum Toning

Lumière & Seyewetz have just published an addition to their previous paper (1912) on this subject and have determined the quantity of platinum taken up by collodion prints from the following bath, which they especially recommend:

Potassium chloroplatinite, x g, x grains.
Sulphuric acid 10 per cent. sol., 50 ccs, 350 minims.
Water, 1000 ccs, 16 fld. ozs.

They found that in a square metre (= 1550 sq. ins.) there was 0.1745 grammes (= 2.8 grains) of platinum and 0.075 grammes (= 1.16 grains) of silver, or the ratio was 70 per cent:30 per cent. They come to the conclusion that the acid ionises the chloroplatinite and causes more easily the replacement of the silver.—*Phot. Woche.*, Oct. 18, 1913, p. 8.

These well known chemists recommend a quantity of chloroplatinite that shall contain 0.45 g of platinum. Assuming that the chloroplatinite is pure this would mean 0.96 g (= 11 grains) in the above bath.

Reducing with Ammonium Persulphate

Stenger summarizes his researches on this point and states that ammonium persulphate only reduces the high lights in preference to the shadows, when the solution contains a small quantity of a chloride, and the correct method of making the bath, that is certain in its action, is as follows:

Ammonium persulphate, 2 g, 14 grains.
Salt 1 per cent. sol., 1.5-2.5 ccs, 11-18 minims.
Water, 1000 ccs, 16 fld. ozs.

The reducing action can at once be stopped by the use of a sulphite bath.—*Phot-Wochenbl.*, 1913, p. 409.

An Interesting Color Process

Ruth and Schuller have just taken out an interesting patent (E. P. 22451-1912). The screen elements are stained with two dyes for each color to form the taking screen and after reversal of the primary image a sheet of paper is squeegeed down on to the picture and the latter with the screen elements stripped from its support, so that the color film is on top; then the picture is exposed to light so that one of the dyes fades, or one is washed out leaving the other which is then sufficiently pale for the light reflected from the white paper to show through and give the effect of color.—*B. J.*, 1913, p. 823.

It is open to question whether this would work in practice, as the quantity of light reflected from the white paper would be but little as it has to pass through the color elements and any silver deposit before it reaches the paper, and then it has to be reflected thence, through the elements and silver to the eye.

Another Interesting Color Process

Szczepanik patents a sensitive film for the bleach-out process, in which the sensitive dyes are distributed in the form of minute screen elements, obtained by staining up grains or small spheres with the dyes, emulsifying in a vehicle and coating paper therewith.—*D. R. P.*, 264207.

The exact value of this patent is not quite clear. If the screen elements of the bleaching dyes were smaller than the elements of the positive, then every color would be diluted with white; on the other hand, if larger than the positive elements the colors would be saddened with black, and the latter must necessarily happen where there is any silver deposit forming mixed colors in the positive.

Clearing Bromide and Gaslight Prints

Ci states he has used a neutral solution of potassium permanganate for some years for clearing up bromide and gaslight prints. A faint rose-colored solution should be placed in a dish, the print immersed therein for a few minutes, well rocked till uniformly brown, rinsed and placed in a 5 per cent. solution of acid sulphite lye. In this the brown color rapidly disappears and the print clears up. This removes any tinge of yellowness due to developer stains, etc. and also clears up any slight fog.—*Das Atelier des Phot.*, 1913, p. 122.

A Waterproof Varnish

Ci recommends the following as an excellent waterproof varnish:

Shellac	66 g	1 oz.
Alcohol	330 ccs.	5 fld. ozs.
boil till nearly dissolved and then add		
Benzole	250 ccs.	4 fld. ozs.
and again boil.		
Make a solution of		
Pyroxylin	33 g.	½ oz.
Alcohol	165 ccs.	2½ fld. ozs.
Benzole	240 ccs.	3¾ fld. ozs.
Ether	66 ccs.	1 fld. oz.

Mix the two solutions and filter. To completely saturate the wood the above should be diluted with alcohol or a mixture of alcohol and benzole and applied several times with a brush, allowing to dry in between.—*Das Atelier des Phot.*, 1913, p. 123.

Boiling alcohol and benzole over a naked flame is an excellent method to cause a disastrous fire. Hot water may be used, as the boiling point of both is comparatively low.

Blue Tones on Development Papers

According to the latest instructions issued by a large paper factory in Europe, excellent blue tones can be obtained on gaslight papers by washing the prints after fixing for 15 minutes, and then treating with

Chloride of gold 1% sol.	40 ccs.	280 minims.
Ammonium sulphocyanide	40 g.	280 grains
Water	1,000 ccs.	16 fld. ozs.

Add the gold to the sulphocyanide solution thirty minutes before use. In about ten minutes the prints assume a distinct blue tinge, which is the more marked the browner the original was. After toning wash for 15 minutes.—*Phot. Rev.*, 1913, p. 56.

Bleaching of the Blood in Dark Rooms

Doctors Lafont and Heim state in their work "Recherches sur l'hygiene du travail industriel" that analysis of the blood of workers in dark rooms prove that they do not become really anaemic, but there is gradually a great increase in the number of white corpuscles in the blood and they ascribe this to the absorption of silver salts by the body.—*Phot. Wochenbl.*, 1913, p. 396.

All red blooded animals and plants when kept in the dark or red light become pallid. This seems much more reasonable than absorption of the silver salts.

Making Duplicates Direct

Lumière and Jougla recommend the following method for making direct duplicate negatives or positives. Expose a plate on both sides to the white light so as to thoroughly fog it, and place as usual film to film with the negative or positive to be reproduced, cover the back with the black felt and expose to dull daylight for five minutes or for half a minute in summer, or to 1—1½ metre (40-60 inches) of magnesium ribbon at a distance of 20 cm. (8 ins.). Then remove the plate develop in white light with any developer containing 0.5% of potassium bromide and fix as usual.—*Wien. Mitt.*, 1913, p. 568.

Obviously the first exposure completely fogs the plate, the second produces a solarized image, and the development in white light causes the solarized image to disappear and a direct duplicate is thus obtained. From a few experiments I have made, the process seems practicable. The solarized image is faint but distinctly visible.

Slow Development of Autochromes.

Carteron advises the following method as giving good control of the development of autochrome plates. He uses three dishes side by side, in the first is one of the following solutions, which destroy the color sensitiveness of the emulsion:

Pot. bromide 10% sol.	100 ccs.	700 minims.
Acid sulphite lye	20 "	140 "
Water	1,000 "	16 fld. ozs.

or

Pot. bromide 10% sol.	100 ccs.	700 minims.
Boric acid powdered	50 g.	350 grains.
Water	1,000 ccs.	16 fld. ozs.

In the second dish is the developer, and the third the reversing bath. The plate is placed in absolute darkness in the first dish and left for two minutes, the dish should be covered and the red light turned on. The second dish contains the usual meto-quinone developer diluted with eight times the quantity of water. The plate should be well rinsed and then placed in the developer for ten or fifteen minutes or till it appears grey, then washed and immersed in the reversing solution, 5 parts to 100 of water. When the negative image has entirely disappeared, rinse for a minute and redevelop till quite black.—*Phot. Revue*, 1913, p. 77.

Paint for Studios

The following is recommended as a paint for studio and other outdoor woodwork, and it is stated to be watertight and to last 15 years:

English red	10 kilos	22 lbs.
Ferrous sulphate	2.5 kilos	5½ lbs.
Rye flour	2.5—3.0 kilos	5½—6⅔ lbs.
Water	60 litres	48 gallons

The sulphate of iron should be dissolved in the water and the rye flour, which should be as fine as possible, stirred in and the mixture boiled for about 20 minutes and then the color added. It is as well to work the latter up with a little water first so as to avoid lumps. Then boil the mixture again for about 15 minutes. It may be applied hot or cold.—*Deutsche Phot. Zeit.*, 1913, p. 492.

Writing on Glass

It may not be known to all and therefore useful to call attention to an old but very efficient method of writing on glass. Take an aluminum rod and sharpen and use like a pencil. The writing is easy to see, cannot be rubbed or washed off and withstands nearly all liquids.—*Phot. Ind.*, 1913, p. 1427.

Death of M. A. Liebert.

The death of M. A. Liébert is announced at the age of 87. He left the Frency Navy in 1848 to become a professional photographer and had for some years a studio in California, but later returned to Paris. He was the author of a manual on carbon printing and "Photography in America," which passed through three editions.—*Bull. Soc. Franç.*, 1913, p. 241.

CINEMATOGRAPHY FOR THE LOCAL PHOTOGRAPHER

THE CAMERA

BY ALFRED H. SAUNDERS

THERE was omitted from the list of cameras mentioned in last month's article that of Eberhardt Schneider, a man who has done a great work for the art and whose cameras and appliances are well worth mention.

The diagram illustrates this side by side film boxes and the method in which they work. By studying this, the tyro receives a good idea of the method in use in preparing the film for exposure in the camera.

Referring to the different designs of camera the cut illustrating Chas. E. Dressler's camera shows the method of looping the film and the use of the single sprocket in preference to the two and four sprockets used in others. This device simplifies very largely the threading of the camera.

The Ernemann cut shows another method of threading. This is Model B camera, adapted to take 400 feet of film. The claw movement is used with the sprockets, the film passing first from the bottom of the film box, under the sprocket wheel and looped over the film gate, then down and looped carrying it over the lower sprocket through the aperture at the top of the box and rewound in the lower film box as per illustration. The telescope like case in the centre of the camera running from front to back is the focusing arrangement. This camera is made reversible so that it may be moved forward or backward for trick films and the picture can be seen during the operation. This camera is also fitted with masks that give the appearance of the picture being taken through a telescope, opera glasses or keyholes.

Their model A camera takes 200 feet of film and is an exact replica of the model B, except that it is arranged to take only 200 feet, and consequently is smaller than the professional. One advantage of this model A is the fact that by simple contrivance, a changing of the handle, this camera can be made to print positives from the negatives, so saving the expense of a special printing apparatus.

Several letters have been received relating to this series of articles couched in practically the same language, the one

from Cambridge, Mass. will answer for the others, he says:

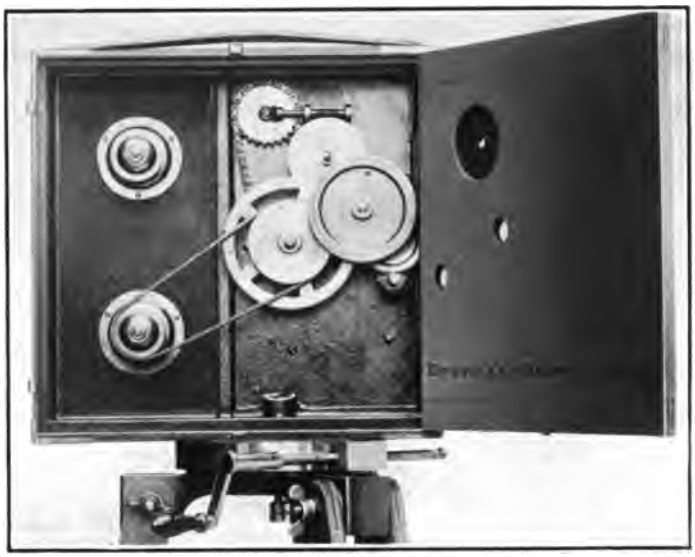
"I want a camera that is not over twenty pounds in weight, has magazine capacity of 200 feet a place for masks (this is not absolutely necessary), a film counter, and above all must be very quiet. I want to use this camera in taking pictures of animals in their native environment, and also pictures of races, etc.

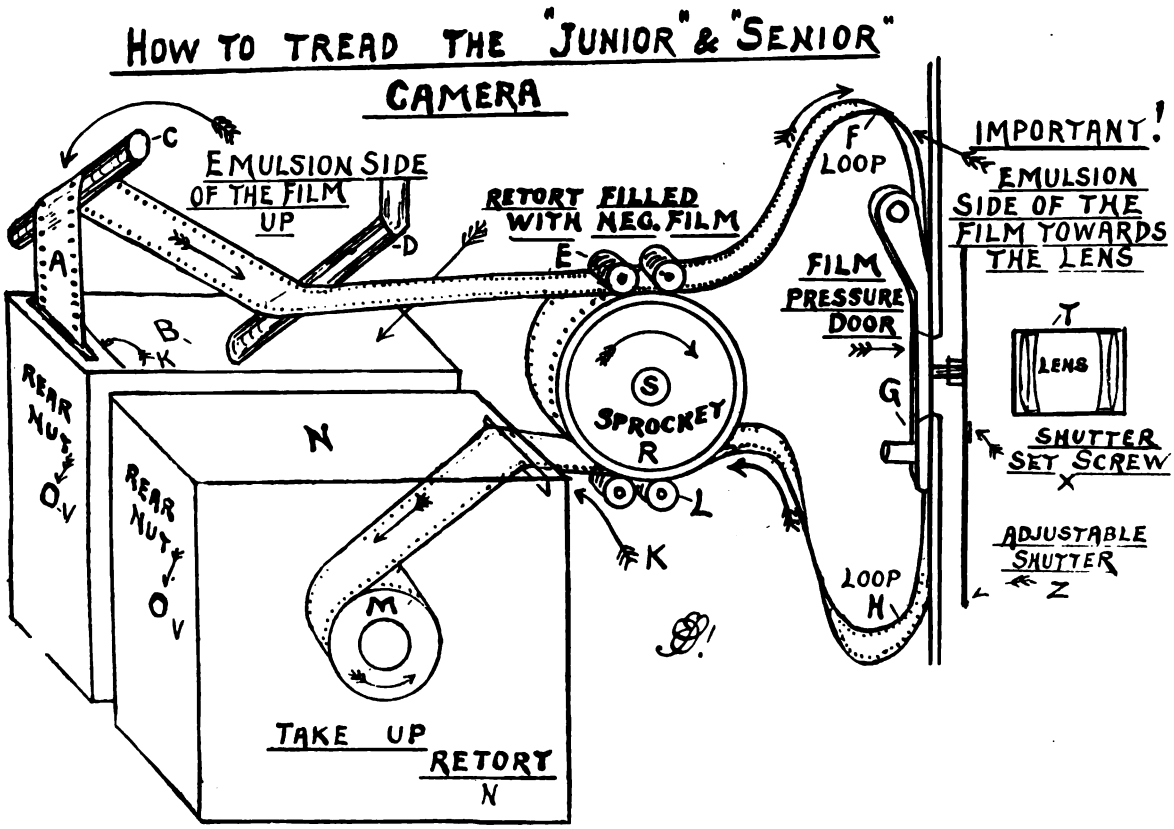
"I shall want to get the camera in the near future as I am going to spend several weeks in the Canadian woods during the Christmas holidays."

He makes the statement that he is willing to pay $225.00 for this camera. It is well to point out here that for such

work a camera cannot be purchased at this low price, and while all the lower priced cameras will do good work, unless the best is obtained, it will be a disappointment to the purchaser.

To be continued.





PHOTOGRAPHY IN GREAT BRITAIN

A Review of the Month from our own Correspondent

London, Nov. 1, 1913.

An old adage applied at some time or other to every commercial enterprise states, in effect, that competition is the best business tonic. This is certainly true of photography, especially in the professional world. Indeed, I very much doubt if any single word has loomed so large and dominant over any industry as competition is in photography to-day. Our professional photographers of all ranks, from those whose signposts are graced with the royal coat-of-arms to the itinerant shilling-a-dozen sticky back merchant retired to town from his seaside pitch, each clamorous to outrival his nearest competitor. Cutting prices are not so much the weapons of competition, it is interesting to note, as artistic work for it is really upon his tariff that the British photographer is most conservative. But I am diverging from the subject. Competition is rife too amongst photographic societies and institutions, postal courses of photographic tuition are advertised by rival concerns at cut-throat rates, while even illustrated newspapers offer prints of topical events at competitive prices. Pessimists contend that this increasing flood of competition cannot do otherwise than exercise a deprecating influence upon the industry. Yet these people exist in every community. It was they or their ancestors who shook their heads when Daguerre first successfully reproduced a portrait and it was the same class who deplored the growth of that most popular child of its photographic parent—one which owes its development to competition,—the moving picture. Still there is one department in which competition in photography cannot be other than injurious to the art. It is competition between photographic societies, an unusual instance of which has been brought to my notice this week. A city which shall be anonymous beyond stating that it sends up to the London exhibitions some of the best pictures, possesses three photographic societies each with a large membership. The committee of one of these recently circularized the members of its rival organization with offers of reduced membership terms if they would forsake their old club for the new. In one or two cases I am given to understand the invitation was successful and accepted and now the offended society is considering the best way of retaliating. Consequently if such antagonism as this is allowed to exist what will the outcome be? Certainly nothing greatly to the advantage of either society, much less to Photography.

Nature Photographs

An exhibition of prints to secure which would overtax the patience and fortitude of ninety-nine out of every hundred camera owners, has been opened by the Nature Photographic Society. The bird studies are indisputably the best of the monochrome works. Of these it would be unfair not to mention Mr. Chas. Kirk's study of a curlew alighting upon its nest; Mr. R. Kearton's "Black Coated Diver," and Mr. O. G. Pike's picture of a swan. Mr. H. E. Cooke, a well-known color photographer contributes a number of admirable autochrome studies of wild flowers.

More About A. L. Coburn

It is a sweeping statement to make but I am by no means alone in stating that Alvin L. Coburn, who is now holding a portrait exhibition in London and which I reviewed in my last letter, has arrested more attention than any other American photographer in this country. Even the most staid art critics speak highly of his work and it is no doubt the popular reception of his portraits that has induced him to publish them in collective form under the title "Men of Mark." Even every American photographer may not be aware that Coburn did not come to this country until nine years ago when he set out from New York bent upon securing unconventional poses of celebrities on this side. His success may be measured, not by his prints alone, but by the fact that he has had his catalogue annotated by that idol of American art critics, George Bernard Shaw What is more, when Coburn wrote to Mr Shaw the latter immediately ceased work on his new play, went to the station, helped him with his camera to the house, and allowed him to photograph him in a dozen different positions. Andrew Lang, H. G. Wells, Henry James, J. Sargent, Sir J. Barrie, Dr. Robert Bridges, G. K. Chesterton, Arnold Bennett, Max Beerbohm, William de Morgan, J. Galsworthy, and Hilaire Belloc, stand out most notably amongst Mr. Coburn's subjects while he also includes in his exhibition collection a number of American portraits, already familiar, no doubt, to readers of WILSON'S. Three portraits, however, which possess a special significance to English photographers are those of the Duke of Connaught, Lord Esher, and Lord Haldane. Of English celebrities none are more reticent than these and it is regarded as a great feat of the young American to be able to do what many English painters would give a year of their lives to equal. As

to the prices commanded by Mr. A. L. Coburn for prints from his negatives it would not be fair of me to divulge what has been given in confidence but I might add that I have seen many paintings knocked down at Sotheby's for much less than the average fee Mr. Coburn receives.

Iron for Toning.

I wonder how many lecturers who are experimenting for a full but transparent green and blue toning solution for their lantern slides of seascapes, moonlight views, foliage studies, etc., have tried iron? Surely there cannot be many or the brilliant shades obtainable through this simple method would be much more in evidence. The lantern slide which has previously been developed, fixed, and washed is immersed in the following:

Ferric ammonium citrate	40 grains
Nitric Acid	50 drops
Potass. Ferricyanide	100 grains
Water, to make	20 ounces

After toning a good washing must be given and if the blue tone is satisfactory they may be then dried. If a bluey green (a faithful color for sea pictures) is desired bathe the slides only for about a minute in the above, then transfer, after a reasonable rinsing of course, to a solution composed of 50 grains of chromic acid and ten ounces of water.

Checking the Forger.

An electro-chemical engineer of Sutton, Mr. Alfred Bawtree by name, as the outcome of three years patient study, has at last devised a machine to manufacture bank-notes and to call out the value through a phonographic attachment. On the edge of the special bank notes the sound waves of the words "five pounds," or "ten pounds" are recorded by means of a partially sensitized surface, first by photographically reproducing the sound wave on to a film and then by transferring it by an intricate process to the edge of the note. Everytime these notes pass through a bank or a counting house they will be tested through a phonographic instrument which will call out their value.

Advice to Professionals

Lecturing at the London Salon of Photography the other evening Mr. Charles E. Dawson disseminates many useful hints to professional photographers. The lecturer held that modern photography was one of the best methods for bating the business man. The magazines give a splendid market and if you really study such a man's tastes you will be a millionaire artist very soon. First there must be animation in the face or figure represented and this must be that of the eternal feminine, he said. The second principle is to keep certain broad types. For instance "Innocence" will always sell. Sir Joshua Reynolds set the fashion with his "Kiss-Me-Mother" babies, but the same effect can be got with adult figures. The "sine-qua-non" of innocence is that the shoulders or one shoulder should be bare. If this characteristic is present you may have any kind of expression, but the modern business man likes the mouth to be parted in ecstasy and the teeth showing in a glistening row. Again the type of the "Soul's Awakening" will always command a market. Thirdly, costume pictures are certain to get into any suburban villa. If they are classical be careful to put the figure against a column, or, if no column is to be found strew flowers in the foreground and the trick is done. The actress alone in a print is another sure success. The print must contain no one else, and the actress has to be popular at the moment, in order that the city man may have a day dream that he is in her company under the sylvan willows. Finally, the photographer should watch carefully for the fashion in women's faces. Nowadays the well-drawn face inclining to be long is not as acceptable as the fuller, irregular, dimpled type. An out of date woman's face will never sell. Also, the artist must remember that nowadays we like our women young. The 18th century, Gainsborough and so on gave us dowagers on the shady side of thirty but that will not do for to-day.

A "Working Up" Wrinkle

Mr. G. Braithwaite, a worker who may rightly be described as an authority upon the finishing of prints has been lecturing at various places in the country upon retouching. One of his most valuable hints in the working up of black and white prints advises the use of ordinary domestic black-lead in preference to any special preparation. It should be rubbed on in a similar manner to powder color with a tuft of cotton-wool or a piece of muslin stretched across the tip of the finger. The professional will argue that this method will not ensure results as soft and diffusing as charcoal but this will be found by trial to be no objection as it answers admirably for backgrounds, faces, and draperies. Then it can be very easily and cleanly "picked out" with composition rubber while it has the advantage over powder colors of not requiring a final fixing.'

High Speed Photography

As a result of experiments in high speed photography Dr. Adolphe Abrahams announced a day or two ago that the average speed at which a golfball left the tee was 300 miles an hour. Dr. Abrahams is perhaps one of the best known pioneers of rapid shutter work on this side of the Atlantic. He speaks highly of the efficiency of shutters of the "multispeed" type for very rapid work. This was brought out in 1892 by Mr. B. J. Edwards, the plate manufacturer from a model outlined by W. England in 1865. Dr. Abrahams finds that a single lens working with the aperture set at F.12 is more rapid than a double anastigmat working at F.8. The explanation is simple and quite logical.

The single component lens is quicker in reflecting or absorbing light than the double and consequently denser lens. Dr. Abrahams is now actively engaged in the study of high speed photography to the various branches of athletic education. A large number of athletes at our public schools and universities depend upon the photographic interpretation of their performances as a guidance to better efforts and Dr. Abrahams has found snapshots at about a five hundredth of a second to be more satisfactory than kinematographic records.

A Mechanical Developing Plant

Mr. Ellis Graber, of Kent has placed on the British market an improved developing plant for the rapid commercial production of photographs. The mechanism is, in its limits, somewhat after the style of a modern newspaper printing machine, only, that the motive power is supplied by a handle. A roll of unexposed bromide postcards or paper is mounted on an upright pedestal and threaded through the gate of an electrically illuminated printing box overhead. As the roll, which is automatically held in position, passes exposed out of the printing box the end is taken and threaded into a large developing tank adjoining. The same happens for washing and fixing and also if required for toning. Several hundreds of prints can be turned out per hour according to the rate the machine is worked and also upon the strength of the solutions used.

Celluloid Printing Plates

An invention that will commend itself to photographers or stationers who desire to have prints reproduced yet without involving the expense of block-making is being patented in this country by Mr. E. G. Lucas of Brighton. A transparency is first made on an ordinary piece of film of the image to be reproduced and hardened, fixed, and washed in the conventional manner. Next the image upon this film is bleached away, presumably, with any good bleaching solution and after a brief washing is dried quickly in a fairly high temperature draught. At this stage—if further operations are inconvenient the film may be stored away—or to continue the bleached film must now be immersed in warm water at 78 degrees F. After ten minutes transfer to a saturated solution of common salt and finally to a bath made up of:

Glycerine	1 oz.
Oxgall	2 drops
Water	2 oz.

for ten minutes. If necessary a six-per-cent. solution of zinc chloride can be used as a final hardening agent and when dry the film will be found to be a pliable printing plate with the image marked out in proper relief. When used for printing with ordinary inks it should be mounted in a damp state upon a support. This will repel excess grease from the high-lights. After use the film is stored away and before being brought into employment again it should be re-treated in the salt and glycerine described above.

J. B. Sutcliffe.

NOTES AND NEWS

Are your prices high? It matters not, if the quality is also high. You will get the orders.

Every sale represents a loss—until the bill is paid.

Good salesmanship, backed up by goods of quality, is a combination that leads to certain success.

International Photographic Exhibition

To be held at the Ehrich Galleries, 707 Fifth Avenue, New York. The Ehrich Galleries will hold during the month of January an exhibition of photographic art which will include the prints of foreign and American workers.

Dates and information for prospective exhibitors will appear in our January issue.

With the beginning of 1914 the Photographic Department of Syracuse University will move into a new building, which has been expressly built for it. Students will then be permitted to enter for special courses.

The Wollensak Optical Co. of Rochester have presented the College with a Verito soft focus lens, fitted with a studio shutter. Messrs. Schering & Glatz have donated a supply of their Assur colors, Duratol and other chemicals. The C. P. Goerz American Optical Co. have given a 14-inch Celor lens with a Compound shutter. Schott & Genossen, the manufacturers of the famous Jena glass have sent a complete sample of all the raw materials used in making the glass with a large variety of optical glass. Carl Zeiss have given the school several text-books and other literature written by their scientific staff.

New Secretary for the P. A. of A.

In accordance with the instructions laid down by the members of the P. A. of A. at the recent Kansas City Convention the Committee empowered to select a General Secretary for the Association met in Washington, D. C., October 31st and November 1st to consider the applications received and to interview such candidates as presented themselves to the Committee in person.

Twenty applications had been filed, photographers being in the majority. A minister of the Gospel, a lawyer, a college professor, salesmen, clerks, and a secretary of a Western City Commercial Club forming the balance. Of these, ten had been requested to appear in person. The Committee, G. W. Harris, Chairman, Ben Larrimer of Marion, Indiana, and John Schneider of Columbus, Ohio, all ex-presidents of the P. A. of A. invited the members of the National Board to meet with them. Mr. Towles and Mr. Dozer were therefore on hand, and President Tyree was expected, but was unable to be present. Mr. Dozer was originally a candidate, but withdrew his application when asked to be present at the examination of the other applicants.

Each candidate was asked to give an account of himself and to give his conception of a secretary's duty for an organization which showed so small a percentage of members in proportion to the total of possible members. After a full deliberation on the merits of the various candidates, the committee decided on John I. Hoffman, Secretary-director of the Commercial Club of Maryville, Missouri as having the best qualities for the position. He is young (26 years of age), energetic, a good organizer, a good speaker, a college graduate, Drake University, Des Moines, Iowa, and the necessary presence for such a responsible position, besides having the best of endorsements. The Committee wish to state that all the candidates possessed excellent qualifications, but believe they have made a wise choice in Mr. Hoffman.

His duties will begin with the first of the New Year and for the time being he will be located with Mr. Dozer, the Treasurer, at Bucyrus, Ohio. His actual duties will probably be left to the incoming Board to decide.

The Committee bespeaks the hearty goodwill and co-operation of every member of the P. A. of A. for their new Secretary, as it is only by harmonious effort that he will be able to accomplish the most effective work.

An Automatic Photographer

At a recent meeting of the Société Française a new automatic photographing machine was exhibited. A stool is fixed in front of the apparatus and the sitter drops his money into a slot, a bell rings and a notice appears: "Attention! Tournez la tête à droite, fixez la croix rouge et souriez." Then two arc lamps strike up and another sign appears, "Ne bougez plus" and after a few seconds the lamps go out, another sign appears, "Merci; la pose est faite; vous pouvez vous lever. Dans 3 minutes votre portrait sortira au bas de l'appareil," and in the time stated a postcard appears with the picture. The whole apparatus is worked electrically and although a negative must be obtained this is converted into a positive by the acid permanganate reversing process and then developed.—*Bull. Soc. Franç.*, 1913, p. 250.

Automatic machines are not new, the old Enjalbert camera being, of course, well known, but the idea of reversing the primary image is distinctly novel, and judging from a half tone of a picture thus produced the results are quite creditable.

Proofs

The question of the proper manner of showing proofs to patrons has not received the attention it deserves, notwithstanding the fact that the ultimate order depends to a great extent on the impression those proofs make on the customer.

The usual method of employing a printing-out process will perhaps suffice where the price charged for a dozen prints is comparatively low, but when showing proofs of high class work where a good price is asked—and obtained—surely the proofs should be in a more presentable form.

Many photographers roughly retouch the negatives before making proofs, thus simplifying the work of the custodians of the reception-room or office, and the procedure very often results in a larger order being given than was originally intended.

The use of developing-out paper for proofs has, as yet, been tried by few, but the innovation is said to be very much appreciated by the patrons of the studios where D. O. P. is used.

It stands to reason that if a customer selects an expensive style of portrait, say on Professional Cyko, buff or linen surface, the proof should bear some semblance to the finished print, and you certainly do not do yourself or your work justice by showing an indifferent proof.

If you are afraid of your customer taking the proof to another and cheaper photographer to have it copied, you could omit to fix the print, but the people who would stoop to this dodge, are, thankfully, few and far between.

Finished proofs could, of course, be charged for, the amount paid being applied on the total of the bill when the transaction is completed.

The advantage of making prints at any odd time, night and day, is also another recommendation of this method.

PLATINUM PRINT is a new publication "to serve the needs of men and women whose delight is in the use of the camera as a personal expression."

The first number contains reproductions from platinum prints by Clarence H. White, Alvin Langdon Coburn, Photogravure insert. Charles B. Denny, Francesca Bostwick, Charles H. Barnard, Edw. R. Dickson and H. H. Moore. The articles are on, "Photographic Representation of Motion," by Paul L. Anderson; "Multiple Platinum Printing," by Karl Struss; "Photogravure," by Alvin Langdon Coburn.

The origin and intent of this excellent publication is made clear by its editor:

"Born of enthusiasm, with a determination to publish but a few pages so long as the effort echoed, *Platinum Print*, through the aid of a little band of workers interested in showing another phase of individual expression in America, becomes a possibility.

The frequency of its appearance will naturally be measured by its need in a practical world.

Its name is a distinction; not necessarily an indication of its exclusive indulgence in platinum prints. A print's a print.

Its ambition will be the encompassing of principles wide and unrestricted, and a declaration of the attitude and aims of users of the camera."

Price 15 cents by mail. Edward R. Dickson and Charles H. Barnard, editors, 2 East 29th Street, New York.

FOR something like five years the men who invented and now market Panchroma, the perfect flash powder for autochromes and other color plates, have been urged to supply to advanced students and practitioners in photography, the cameras, lenses and accessories which have long been used by them yet not readily available upon the American market.

For the purpose of supplying the demand, representatives of Messrs. Allison & Hadaway, 235 Fifth Avenue, N. Y., have been sent abroad, and with the active participation of Mr. Allison, negotiations have been completed by which the house is pleased to announce that it is now in position to furnish to those interested in the higher department of photography lenses, cameras, plates, screens and numerous new and novel accessories produced by the best English and Continental makers.

Careful tests of every portion of the equipment furnished, whether technical qualifications, climatic influences or other conditions, will be carried out under the same personal supervision. Nothing to make for the success of the individual operator will be overlooked.

Instructions in color work by flashlight with the Panchroma Powder can be had upon application.

THAT the Cooper Hewitt Light is a perfect substitute for daylight for all photographic purposes is substantiated by experience of photographers extending over the last ten years. The principal photographic processes in which the light is used may be briefly mentioned as follows:

1. Portraiture. The studio properly equipped is independent of daylight. Lamps equipwith the light transformers or so-called red reflectors give normal color values. The advantage of a location on the ground floor and being independent of daylight has been amply demonstrated.

2. Postal Card Work The Cooper Hewitt Lamps are positively the standard equipment for this work With a little study and proper arrangement of two lamps, perfect postal card work is done.

3. Photographic Printing of all kinds can be done with Cooper Hewitt Outfits. Further details can be supplied upon receipt of information as to the exact nature of the printing and number of negatives to be covered.

4. Bromide Enlarging. Cooper Hewitt Lamps are used without condensing lenses, a sheet of ground or opalescent glass between the tubes and the negatives gives an evenly illuminated field.

5. Motion Picture Studios. The quantity and quality of the large amount of light required for this work is furnished only by the Cooper Hewitt equipment.

The man who gets all the value out of himself will have to smile frequently, for there's value in a smile.

The quickest way to take the fight out of an enemy is to say something good about him.

IN these days, when interiors and home photography is becoming more than a profitable side line, the question of the flash lamp is an important one. The "Agfa" is an entirely new idea for the ignition of the flashpowder, which assures firing and is always ready for immediate use. A sparking metal is used, which is good for several hundred firings, and then can be replaced with a new metal. This is a mighty handy lamp, and very reasonable as well, as it sells for only $2.00, having been reduced from $2.40, and is made by the well-known Berlin Analine Works, at 213 Water Street, New York City.

Their larger professional flash lamp is fitted with a 12 inch tray for burning large quantities of flashpowder, and is well equipped and conveniently packed in a carrying case. The ignition is by means of Pyro-Porus metal, and this professional size has been reduced from $17.00 to $15.75, and is well worth it.

By the way, it is worth knowing that the "Agfa" Blitzlight Powder is the only powder pronounced safe by the United States Government, and allowed sent through the mails. This is an entirely different form of compound from all others, and one trial will convince of its efficiency.

THE well established house of Heinrich Ernemann, of Dresden, has too wide a reputation for the high standard of their cameras for us to give any further testimony than to announce that they have opened a branch office for the United States—The Ernemann Photo-Kino Works, at 114 Fifth Avenue, New York City, under the management of Mr. H. J. Hoffman. Here will be carried a full line of Ernemann cameras from the Reflex to the Minute-Klapp camera. Their new large, illustrated catalogue will be furnished on application, for ten cents.

FALL STYLES

The effect of mounts on the looks as well as the sale of the finished print should make you as careful in their selection as in any of the other material that goes to make up the finished photograph.

A print inappropriately mounted is just as bad taste and just as harmful to your business as poor spacing and trimming or poor quality of prints. Good style, harmony of color, and proper size and shape for the various styles of work, are essentials in selecting a line of mounts that will sell your portraits quickest and at the best prices.

And when you have a good line of mounts, don't allow them to be used with bad taste. You have probably seen a head and shoulder vignette printed and mounted on a 4x9 panel mount that was never intended for anything but a three quarter or full-figure, and you know just how bad it looks. It is bad advertising to turn out such work, and it isn't necessary. Use the right mount for the right purpose.

The Fall catalogue of Taprell, Loomis & Company contains a number of new styles in mounts and folders, also Studio Albums and Leather Novelties, and if you do not have this catalogue, you should send for one before you place your next order.

One of the first things in the catalogue to attract your attention will be the Sales or Studio Albums. Several styles are shown and all of them are good. It has been said that sample pictures scattered over your counter in disorder give the impression that you are very busy, but we have yet to hear of a case where a salesroom in disorder created a good impression on the customer.

Show your samples in a way to impress the customer with the value you place upon them, and you will find the customer will appreciate their value. Studio Sales Albums not only keep samples clean and show them to the best advantage, but facilitate the handling of customers.

The Class Portrait and Group Album is a new idea that should bring you additional business. It is an elastic idea. The album has three leaves for six portraits, but the capacity is 25 leaves for 50 portraits. It is the ideal way of selling Class, Faculty, Lodge and Family Group portraits. An individual portrait of each member, in a handsome album, is preferable to a large and often unsatisfactory single group picture. And you have the opportunity to take orders from the individual negatives as well. By all means have a sample and a few extra group albums and leaves in stock. Prints are held securely in place when slipped under the cape at top and bottom of each leaf.

There are a number of new and appropriate mounts for the holiday trade. The Salerno is a beautiful chocolate brown enamel folder mount which is double scored and holds the print perfectly flat. The Portrait Proof is for panel effects, and as the prints are held in place by a cape at either side, the effect of the long panel is not destroyed. The Dramatic is made in Universal Brown, a color that harmonizes with any tone of print. Prints are held securely in place by double scored flaps. The universal color and the looks and the feel of leather are features of this mount. The Reception Group is a folder case for horizontal groups and is made of same stock as the Dramatic. The Spellman is an especially high class mount for platinum portraits, there being no ornamentation other than the hand-tooled lines on cover and delicately tinted line one-quarter inch from the edge of insert. This mount is especially appropriate for large size quality portraits.

There are many other new styles, all of which are good for special classes of work, but we will mention only one other, the Medlar, for 11x14 prints, both horizontal and vertical. This is not only an excellent mount, but a very suitable mat as well, and will help to suggest a frame.

Leather novelties are not to be forgotten, and good leather cases of various kinds will have a ready sale if properly displayed and suggested for gifts. Why allow this business to go to the jeweler when it rightfully belongs to you? Have the goods in stock, show them, and you will find a ready sale for leather novelties at Christmas time.

Send 75 cents to Taprell, Loomis & Company, Chicago, Ill., for Sample Mount Offer No. 14, and you will receive one of each style of their latest Fall Styles of mounts and one set of Show Case Advertising Cards, express prepaid. The samples are neat, clean styles you can use on your sales counter or for window display. The advertising cards will attract attention to your show-case and bring you business.

What Did You Do Yesterday?

For your own satisfaction suppose you jot down on a piece of paper a list of all the things you did yesterday.

This may seem sort of a childish thing to do, and perhaps you will wonder where you can get enough paper on which you can make such a list. But after you get started at the task you will soon see that even a very small piece of paper will suffice, and that when actually set down in black and white, the various items which apparently filled up a very busy day are really astonishingly few in number.

Try it. The result will surprise you. It may also make you a little ashamed of yourself to think that you are accomplishing so little.

The Art of Retouching

The recent appearance of a new—the seventh—edition of Johnson's "Art of Retouching" is opportune. This edition has been revised and rewritten by T. S. Bruce and A. Braithwaite. Both these gentlemen are experts in these matters, and write in a thoroughly practical manner calculated to help the beginner easily over the rough places. That there are plenty of places where the learner can go wrong I know only too well, because I took up retouching in the quite early days of the dry plate, when there were no books on the subject, so that we workers of those days had to find out things for ourselves, and sometimes this was a very tedious process. I can cordially recommend this book; but to the beginner who takes it in hand for the first time I might say that its many pages and abundant advice need not alarm the average amateur, for it deals with many topics that are not very likely to find place in his personally chosen path. The landscape worker will find much useful advice in Chapter 9, which deals with the retouching of foliage, grass, snow, clouds, and water. Part 2, which deals with the working up of enlargements, will also be found very helpful to the amateur. I do not know what the price of the book is, but as it is much about the same size as the last edition, I presume it will be the same, viz., 2s. (50c). The publishers are Marion & Co., Soho-square, London, Eng.—*F. C. Lambert.*

"Photograms of the Year 1913"

"Photograms of the Year" has for the past eighteen years been regarded as the annual specially devoted to the pictorial photographer and his work. This year's volume just published, contains a remarkable collection of fine pictures made with the camera by the leading workers in all parts of the world, and indicates in many ways the great advances made in pictorial photography as an art.

The 1913 volume contains nearly a hundred full-page pictures of large size, printed in a new double-tone process that renders each reproduction practically a facsimilie of the original. The collection also includes a fine reproduction in colors of a picture made in the latest screen-plate method of natural color photography. Apart from the interest of the annual to photographers generally, the book forms a notable volume of fine pictures that all art-lovers should see.

Literary and pictorial contributions from all over the world are included and this volume is edited by Mr. F. J. Mortimer, F.R.P.S.

The price is, $1.25 paper edition and $1.75 cloth edition. The American agents are Tennant and Ward, New York, who will supply all orders.

More Film Advantages

Modern Office Filing Equipment

The quality and convenience of Eastman Portrait Film is coming to be more appreciated every day, and the number of professionals who are taking up the use of film in their regular work, is growing in proportion.

With the use of film, additional conveniences are constantly presented to the worker and manufacturer alike, the newest and most important being a system of filing and storing negatives.

The methods of taking care of negatives have of necessity been rather crude, owing to the great weight and bulk of a large number of glass negatives. Films, however, are so light and thin that it is practical for one to file a large number of film negatives in a filing cabinet similar to that used by most every business man for filing correspondence and similar matter.

Three fire-proof paper filing envelopes are furnished with each dozen Eastman Portrait Films, but we offer the Eastman Steel Filing Cabinet as an additional convenience and protection, and recommend its use for filing a large number of these envelopes of film negatives.

With the filing cabinet installed in your office, your negatives are always at your finger tips and may be had for any purpose at a moment's notice. A single unit of the filing cabinet will hold five hundred 8x10 or one thousand 5x7 film negatives, while a four-section unit will hold two thousand 8x10 or four thousand 5x7 film negatives. The cabinets are made in single and four-section units, the drawers have full roller suspension bearings and may be fitted with partitions to hold 5x7 or both 5x7 and 8x10 film negatives.

Steel Transfer Cases without drawers are furnished at less expense and may be used for storing the older negatives as they are transferred from the office filing cabinet. One section of a cabinet may be used for negatives which have been proofed but not ordered. the negatives being immediately at hand when

the order is given. The cabinets are handsomely finished, are inexpensive, and add to the business-like appearance as well as the convenience of the modern photographer's office.

A New Printing Medium

Photoloid—the new printing medium—wherever shown or tried is making a host of friends. It is a developing emulsion coated on a special waterproof stock, which does away with mounting and also permits the tinting of the print from the back if desired. The resulting prints closely resemble a carbon print. Write the Fiberloid Company, 55 Fifth Avenue, New York, N. Y., for a descriptive leaflet and price list.

"Duratol" produces pyro quality negatives, at the same time it is non-fogging and non-poisonous, and it is equally adaptable to bromide and gaslight papers. You should try a sample of Duratol. It will be sent you free of charge, together with full directions. Get your sample from Schering & Glatz, 150 Maiden Lane, New York City.

Central Dry Plates are found in studios of the most exacting professional photographers. They possess quality—the makers guarantee this—and they are reasonable in price. Have you tried them? Better ask your dealer for a dozen, and prove to your own satisfaction that they will fill your requirements. If not convenient to get "Central" locally, send direct to the factory—Central Dry Plate Company, St. Louis, Mo.

Your success in photography depends upon the use of pure chemicals as well as upon the knowledge you combine with your other equipment. "Agfa" products can be relied upon to give absolute satisfaction. Ask your dealer about them, or write direct to the Berlin Aniline Works, 213-215 Water Street, New York City.

Retouching Positives with "Assur" Colors

The simplicity of application, the ease with which large surfaces can be uniformly covered and the possibility to blend the colors almost imperceptibly makes "Assur" colors invaluable for retouching. Here the high lights are rubbed out with the rubber eraser.

This retouching method is applicable also to Pigment papers of all kinds and all colors, for which thus far no satisfactory means were at the disposal of the retoucher.

We have just received a new price list showing the addition of some linen-surface Platora, made in two emulsions; soft, such as they have been supplying their professional customers, and a medium soft grade, one slightly stronger but not in any sense a contrasty working paper. In the Instanto line, they have added an extra hard grade that gives brilliant prints from quite flat and soft films or negatives, and this quality should recommend this new emulsion to the attention of amateurs and those doing amateur finishing. The new papers also include an Instanto Buff in both soft and hard grades. Our readers will do well to send for a copy of this new price list, and should they feel willing to accept our advice to that extent, they will do still better by enclosing twenty-five cents for the generous samples as suggested in the firm's advertisement on page two.

The Bausch and Lomb Optical Co., of Rochester, have an attractive booklet on "Home Portraiture," especially as made by the Bausch and Lomb-Zeiss Tessar. The Tessar is the lightest and most compact of the lenses. It is twice as fast as the ordinary camera lens. It possesses remarkable definition and covering power, which renders its use particularly advantageous on large plates and for enlargements. Any means that will help the professional photographer to get "home portraiture" effects is to be sought after. The little brochure in question contains some interesting illustrations, and many useful pointers on lighting and posing in the home. Bausch and Lomb, or any of their agents, will be glad to supply a copy free.

Enlarging is a most profitable by-product, provided you are properly equipped to turn out high grade work economically. Given an Ingento Enlarging Outfit and Cyko paper, you are in a position to turn out the kind of enlargements which will earn for you many a dollar. It is the only really complete enlarging outfit to be had. Mess. Burke & James, Inc. have sold hundreds during the past year, and they want you to get your share of the great demand. Their booklet "Profitable Enlarging" is a great help, and it will be supplied free on application.

Henry Schmidt, who was the manager of Carl Ernst & Co.'s New York branch, died in Germany on November 5th, where he had gone for recreation and incidentally to celebrate his twenty-fifth anniversary with the firm of Carl Ernst & Co. Mr. Schmidt was in his forty-eighth year, and has a host of friends in the photographic profession.

We want to call the attention of our readers to a valuable little pamphlet recently issued by the Central Dry Plate Co., of St. Louis, Mo., on "Dark Room Pointers," by Floyd M. Whipple. There is much meaty and valuable information on the essentials of a dark room, and we recommend all interested to send for a copy, which will be gladly furnished.

THERE is scarcely any well equipped studio that does not find it necessary to carry a line of metal frames for photographs, and particularly miniatures. We do not know of any more complete line than that of the L. H. Cohen Co., Inc., 28 East 22nd St., New York City, who have for the past twenty-seven years been making these goods of so high a grade that they have established an international reputation. Their new catalogue, just issued, includes frames of all sizes and shapes of a gold and silver finish, making the same to harmonize with the tones of the picture to be framed. We are confident that it would be of interest to you to get acquainted with their line, and we suggest that you write at once for their large illustrated catalogue and price list.

FOR years the *Photo Miniature* series,, under the able editorship of Mr. John A. Tennant, has proved a veritable ***multum in parvo*** for the photographer, and this notable series, which now treats on one hundred and twenty-eight practical subjects, is appreciated more than ever before, as the large sales indicate.

Each number contains plain and practical information on everyday photography; simply written, without waste of words or space; always clear and to the point, and comprehensive, and deals with a different subject, covering its practical applications with working methods and formulas from experience. Every number, too, is complete in itself and tells all worth knowing about its subject; carefully sifted and edited to give only the real facts for the worker; self-indexed for ready reference. Then the news of the photographic world is given in pithy paragraphs in the Notes and Comment section, covering the activities of the month and events of interest in few words. The magazine is beautifully illustrated and printed, and a pleasure to read and handle.

There is so much that is unusual about *The Photo-Miniature,* No. 126, that we think our readers should be informed about its contents. Instead of the usual monograph which is characteristic of *The Photo-Miniature,* No. 126 contains five or six lengthy articles dealing with processes of special interest to the photographer. The first is "Putting Individual Backgrounds Into Portrait Negatives." The second, "How to Make Shaded Vignettes on White Ground Portraits." The third, "The Use of Etching Knives in Working Upon Negatives and Positives," the straightening of crossed eyes, re-shaping the figure, making changes in clothing, repairing a broken group picture, and vignetting a head out of a group. Another deals with repairing broken negatives. The methods are given by a practical worker of much experience, and each paper is very fully illustrated, so as to offer a complete demonstration of the working of the processes. This number of *The Photo-Miniature* ought to be worth many dollars to the professional photographer. Price, 25 cents. Sold by all dealers.

A SIMPLE utility for every camera user is the Radion Dark Room Lamp, made by the H. C. White Co., North Bennington, Vt.

The parabolic reflector permits the use of a small lamp giving four times the light otherwise available, and putting it in one spot where wanted.

Instantly removable ruby glass and cloth provide whatever light is desired; safe light for paper, and fast, even light for printing and general work.

The Radion Dark Room Lamp takes up no table or bench space, is inexpensive, fits any lamp socket, attaches instantly, will last a lifetime, and cannot get out of order.

An equipment is made up of a pair side by side, each arranged for different light and to be switched off and on as required. Send for a catalogue and mention WILSON'S.

THE importation of foreign photographic apparatus due to the reduction of the tariff has brought into the photographic field a number of new companies handling high grade photographic apparatus.

The latest comers are Allison & Hadaway, of 235 Fifth Avenue, who have secured several important European lines and are greatly extending their field. They have adopted a trade mark which appears in this column after a very simple operation.

Thomas Hadaway of the company, in discussing the subject of trade marks with his business associates, said: "All that we need is something to identify our advertising, and as we are going to depend upon the goods we handle for our success, I think the simplest thing to do would be this"—and Mr. Hadaway pencilled out the A & H., which was immediately adopted as the trade mark of the house.

This trade mark is destined to be increasingly familiar to our readers.

The Motion Picture Wizard

Eberhard Schneider, who graduated as a mechanical and electrical engineer in Germany, a mechanical draftsman with Friedrich Krupp in Essen, a gun master and officer of the German Navy and a survivor of the German gunboat cruiser "Adler," which was thrown on the coral reef of Apia Samoa on March 16th, 1889 during the tidal wave and hurricane which also destroyed two of the American warships, has been a photographer ever since and became a master of the art, especially in motion picture photography. He owns the six-story building, 219 Second Avenue, and all floors are devoted to the industry. He is a self-made man in the full sense of the word in spite of all the obstacles and the most malicious litigations about motion picture patents which Thomas A. Edison believed he owned. That Edison was not the master of the art has been sufficiently shown and made public in other trade papers, but the independent side of the motion picture industry owes Mr. Schneider considerable gratitude for the stand he took, and for what he contributed to lift the veil of insinuation on the part of the Edison trust side of the industry.

Mr. Eberhard Schneider who stands and always has stood singular in the art, owns many patents.

Amongst the patents and most valuable improvements are: The first upper and lower fireproof film magazines. The first reliable auto fire shutter to protect the celluloid film. The first and only universal idea of the film centering device, falsely claimed by others. The first lower film rewinder on projecting machines. A single illuminant dissolving stereopticon and the same with motion pictures combined, and another machine of similar character projecting by way of prisms or mirrors a frame of light around the motion picture, sometimes called daylight pictures. The first motion picture film perforator, to perforate film with different gauge. A motion picture film printing machine which has at its exposing point a curved back rest which gives perfect contact in printing without a pressure glass.

Mr. Schneider made the first camera which runs film without perforation holes. The cameras of latest construction are masterpieces of mechanical and optical ingenuity and are used by the War Department, by many universities, lecturers, photographers, by the well-known firm of Pathè Freres, by many expeditions, institutions and by local picture theatres. Mr. Schneider also makes the automatic tripods and tilting tables which work by either weight or spring motor, the Junior Companion professional motion picture projector, stereopticon combined with the two film magazines on the bottom which is the latest product of 14 years experimenting. This machine is fully collapsible and only weighs ten pounds.

Current Topics in Leading Periodicals

Bromoil Facts and Formulae. Oct. 20th. *Amateur Photographer.*

Blue Print Paper. Oct. 31st. *British Journal.*

Common Salt and Some of its Uses, A. J. Jarman. Nov. *Camera.*

Copper Reducer for Gelatine Negatives. Nov. *Camera.*

Carbon in Various Forms and Compounds. Oct. 29th. *Bulletin.*

Compound and Single Toning of Silver Prints. Oct. 29th. *Bulletin.*

Complete Fixation of Photographic Prints, The. Nov. 14th. *British Journal.*

Colors and Brushes for Use in Prints. Nov. 14th. *British Journal.*

Depth and Scale of Image. Oct. 24th. *British Journal.*

Gaslight Emulsion for Paper, Glass or Porcelain, A. Nov. *Camera.*

Ideal Developer, The. Nov. 12th. *Bulletin.*

Lantern Slides in Two Colors. Oct. 28th. *Photography and Focus.*

Negative Defects—Their Origin and Cure, Dr. J. Cook. Nov. *Photo-Era.*

Non-Screen Ortho Plate. E. J. Wall. Nov. *Photo Era.*

New Color Transparency Process, A. Nov. 7th. *British Journal.*

Preparing and Renovating of Backgrounds, The. Oct. 24th. *British Journal.*

Portrait Photgraphy at Bazaars, etc. Nov. 7th. *British Journal.*

P. O. P. Prints and Development. Nov. 11th. *Photography and Focus.*

Portraiture with a White Background. Nov. 18th. *Photography and Focus.*

Printing of Post Cards, The. Dec. *American Photography.*

Silver Solutions for Negative Intensification. Nov. 5th. *Bulletin.*

Time Saving Bromide Hints. Oct. 20th. *Amateur Photographer.*

Treatment of the Sitter, The. Nov. 7th. *British Journal.*

Use of Color Filters, The. Oct. 31st. *British Journal.*

Value of Diffusion of Focus in Landscape Photography. Dec. *American Photographer.*

If you are interested in the question of photo backgrounds—and what photographer is not!—get in touch quick with H. P. Barnes, La Porte, Ind. The "Auto" background print-in film is an equipment well worth looking into. They are easy to manipulate and artistically effected, and a plain background of any tint except pure white is all that you need for your negative. Be sure and send for his illustrated catalogue.

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Wilson's Photographic Magazine

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